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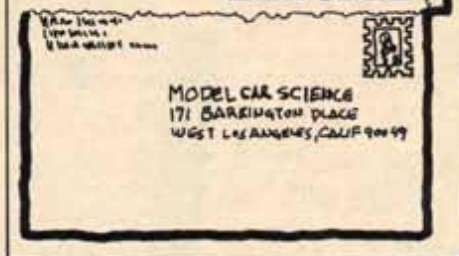
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## DOOR LINE DETAILING

Where can I get the India Ink you fellas use for accenting door, hood, and trunk lines on your models?

Paul Aker  
Scottsdale, Arizona

A stationery store would be the place to buy India Ink, Paul, but the Rapidograph preferred by many of our model builders is a drafting shop item.

## WANDERING WHEELS

I am having trouble with my rear tires. Every time I run the car they come off! I asked the man at the track to fix it, but they fell off after awhile anyway. What should I do?

Ken Lavery  
La Porte, Indiana

Assuming that you are referring only to your tires, the best solution would be to glue them down. However it appears that your real problem is your wheel. If your axle and/or wheel thread is worn, it will make it impossible to keep your wheels from loosening, particularly if your axle is bent and there is a lot of excessive vibration.

## HO REWINDING

I am a faithful reader of your mag and think it's great, but I wish you would do more about HO cars. If so, I would like to know what size wire and how many turns of wire I should use.

Bob Timberlake  
Des Moines, Iowa

Simco has just (the day we got your letter) released #37, #38, #39 rewinding wire in their nylon insulated series. As yet we have not wound any of these ourselves,

but La Ganke has a rewind now on the market that jets! Most mail order hobby shops stock plenty of HO equipment and should have these new items in stock.

## ENDURO MACHINE

I would like to thank you for printing such a BOSS magazine. Do you think it would be possible to have a younger league of slot car teams sponsored by large companies? Also could you get one of your western writers to build an enduro machine that would last 24 hours?

Mark Estes  
(No address)

In the recent 24 hour enduro at John Hales' raceway in Santa Ana, several "junior teams" competed under the sponsorship of large companies in California like Cox, Mura, AC, and WelDun. However with the way the Pro circuit travels around, a group of drivers that can't find transportation is in trouble. Some teams like Checkpoint (a raceway), Champion, and our own, have teenage racers. Chris Chan and Glen Toma of the MCS team built up a real machine for that 24 hour enduro mentioned above. Results are in Speed and Tech and an article may come soon.

## DRAG RACING GEARS

I am building a dragster that will be run on 30 volts. The motor I'm using is a Pittman 85. What would be the best gear ratio? I'm going to use WelDun gears. Also I would like to get a "Don Garlits" 1/24 scale body. I'm 52 years old and enjoy slotting as the teenagers.

John Swank  
(No address)

Gearing for your dragster should be in the neighborhood of 2:1 with WelDun 64 pitch gears. AMT made a clear styrene Garlits Wynn's Jammer that should be available through the mail order houses that advertise in our mag. We can't wait to hear if your dragster dusts off those teenagers.

## THE TURBOCAR

I think you ought to have an article telling how to build the STP Turbo-Car. It may have lost the 500, but it's still a great car!

George Kerr  
Los Angeles, California

You can obviously read the future. George. Bob Schliecher and Chris Chan are both working





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**ON THE COVER** — The soul-shaking, futuristic bodies that adorn our cover cars, are the work of some of the entrants in the annual Fisher Craftsman's Guild Contest. Beautiful? An understatement, dear friends! For more of the same, check out pages 24 through 27. And brace yourself!

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## MODEL MAIL

on the Turbocar right now, in 1/32 and HO.

### CLASSIC CUCARACHA!

I was wondering if a Classic 26D 3-volt motor will fit in a Cox chassis? If it doesn't fit, what manufacturer would have a 3-volt motor for a Cox chassis?

Brad Kerr  
King of Prussia, Pa.

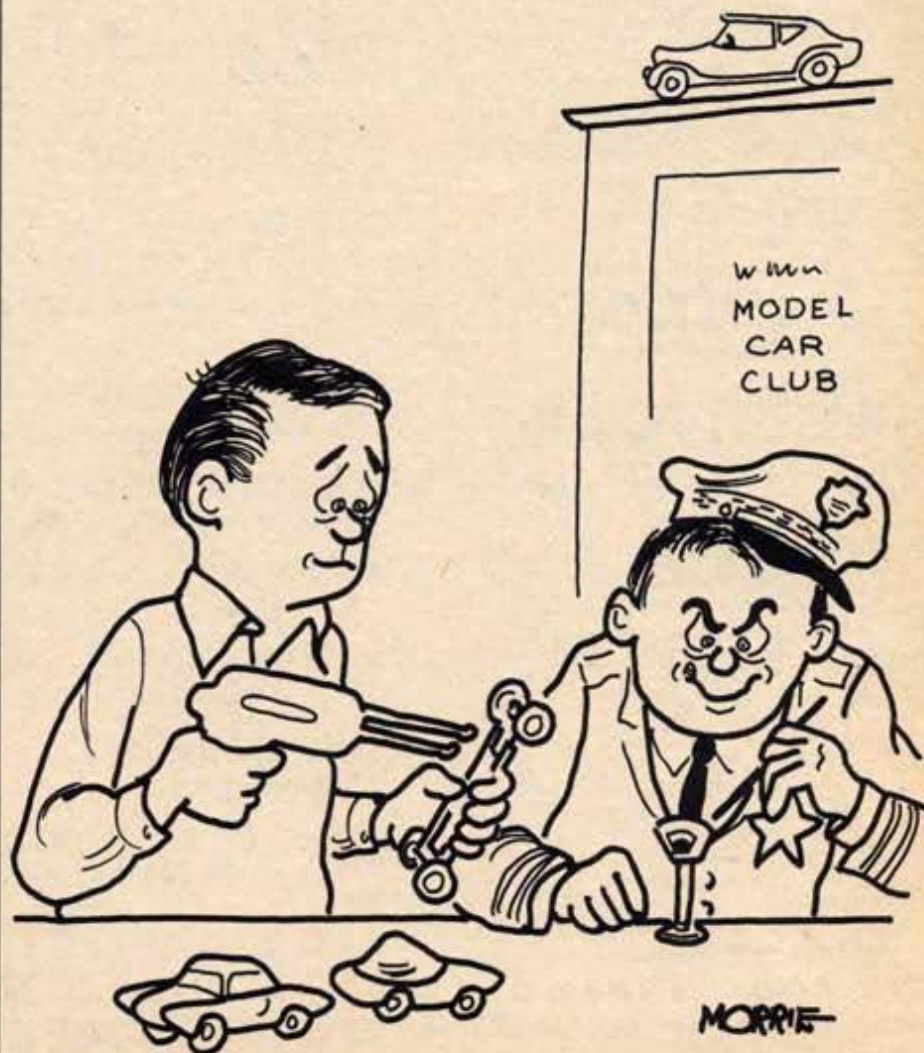
Cox's latest frame is a Cucaracha type that's made for 26D motors like the Classic 400 series. The only motors that will fit into the old Cox mag frames are 36D Mabuchis. A three volt Mabuchi-wound replacement armature would be the most economical approach. Monogram, Revell, Cox, and BZ all sell these separately.

## OVERHEATING

I have a Russkit "23" in a scratch-built chassis. I had an 8-29 gear ratio but it really got bogged down in the corners. A change to a 35 tooth crown helped but the motor still heats up. I have changed to smaller tires, and I would like to know if this will do any good. Is there anything else I can do to make it run cooler?

David Cissel  
Pueblo, Colorado

Smaller tires, like the lower gear ratio you went to, will help your motor rev higher, and cooler, but dynamic balancing and proper venting should be considered. For info on both, you can refer to recent back issues. Also try removing the crown gear and checking to see if there is any bind in the rear axle assembly.



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September 1967 / 7





# SPEED & TECH



## KIT CAR COMPETITION

One class of slot racing I'd like to see remain popular is Modified Kit and RTR. The MCS team actively participates in local Kit races and has come up with some pretty hot combinations. The first is the latest JAD car from the Rikken tire company. With absolutely no modification, the BRM I raced won the first three races I entered it in, and set fast times too!

The real competition for the new Rikken Ferrari (which won two weeks ago) is coming from the not-so-new Classic Super Gold ASP. Last week I ran mine and set a new qualifying record on the way to victory lane. The big weak spot here is the drop arm. The thin aluminum used in the long arm, bends at the slightest pressure, once it has been bent. This wouldn't be too bad, except to achieve the best handling the arm must be perfect. A small tweak and the tiny front wheels lose contact and the car won't handle at all. Another slight weakness is in tire size. Very large tires are required to clear the Classic bracket. Unfortunately the only time the asp will really jet is when you have only about 1/32" clearance, so you can spend a lot of cash on tires. Anyway, the best tire wheel combo I've run is a set of Rikken bargain (79¢) "Blue Goers." Gearing works out well in the 3.5:1 area.

## TWO PRO RACES

If nothing else, Car Model magazines' races attract the best drivers in the West. All the big names are on hand for the pro

events. The Third Car Model road race for Grand Prix cars was held at Ray Wallace's Chequered Flag in Inglewood. The twisty, eight turn, flat course is a real challenge to drive and build cars for. In previous races newly appointed Champion of Chamblee team captain John Cukras cut a record of 9:21, and he had never lost a race on this track.

In qualifying for the Car Model race, Ron Quintana set fast time in the mid-9:30's. In the races held before, Mike Morrissey looked ready to really fly. But none of them were around at the finish. John didn't hack the Semi. Ron got bombed out running the gutter lane, and Mike pulled a Morrissey. From the lowest possible Main Event starting position (fourth in the Semi) Doug Henline, the motor rewinder from Team Russkit, chalked up a win. MCS went One-Two-Three in concourse with two beautiful 3 liter F-1 and my reject Porsche flat 8. I managed to get into the Consi with it but dropped the opportunity and left the race to Ken Larimer.

It took us four heats to figure out that this was really a "crash and burn" event with the almost un-marshallable courses and absence of track calls. Our Dynamic Lola was totalled several times, and looked very much the "school bus" it was referred to as. Four heats and three motors put us back in last place with nowhere to go but up, so the triple 32 silver Mura was a hero. The little can lasted the remaining eighteen hours. The winning Rikken car, a Tom Taber, Bryan Warmack, and Dave Grant (I'm leaving someone out I think) with a 53 of #28 24 lamination can was one of the few that went the distance. Steube's can blew and Terry Schmid stepped into the track wiping out the outside two lanes (everyone was a little tired) to provide a very entertaining two days.

Our "down to the wire" race with Circle T, and my little dices with Tom Taber, were the only real car-against-car driving situations during the race. Most of the other 22 hours were spent patching up our lightweight (never run one in an enduro) body. We all went home and slept right through the 4th of July. After turning well over 10,000 laps, the six hour enduro at American hobbies is going to be like a sprint!

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September 1967 / 9





## modelers' QUESTION SESSION

**Q** I've been buying your magazine for quite a while now and have gotten many tips on model building. I've been looking all over for "flocking" to use in some of my model cars. Please tell me where to get this.  
**DAVID MATTHEWS**  
Torrance, Calif.

**A** Flocking works well for interiors on models and if it's done properly, makes a neat looking interior. I have used it and will pass along a few hints to you for using this material. First, paint the parts that are to be flocked, the same color as the flocking. This helps the flocking cover better. Next use a regular white glue (like Wilhold) and brush it on evenly. Then shake on plenty of the flocking. When the glue has set up, shake off the excess onto a paper so that it can be poured back into the container for future use. It takes very little flocking to do an interior and you will have a lot left over. You should be able to find bags of flocking in many colors at most hobby shops, especially those that carry craft supplies. One company has small plastic containers of various colors. Auto World has an Interior Kit with flocking in three colors, glue and a brush for 98c. Or the flocking may be purchased in separate containers at 19c each.

**Q** Could you please give me some tips on trimming fenders to fit the big tires. Your articles are the finest on the stands!  
**KEITH EIDSON**  
Statesville, N.C.

**A** I have used two different methods to radius the wheel wells. Start by holding a tire up to the body and marking around it with a pencil. Now you can either cut away the portion of the body, or file it away. To cut it, use a sharp X-Acto knife and take off a little at a time until you get to the line. File down the edge that has been cut.

The other method is to use a large half-round file to do the job. The one I use is 12 inches long and  $\frac{7}{8}$  inch wide. It is a coarse one that takes down the plastic quite fast. The curved side of the file has a radius that is about the same as a 1/25th scale slick tire. By using a coarse file, it cuts the plastic faster and does not clog up like a fine one would.

**Q** I can't get slicks for my latest bomb. Where can I get a kit of the Revell M&H Race-master whitewall drag slicks?  
**MIKE LEMLEY**  
Portsmouth, Ohio

**A** Revell stopped making this kit a couple of years ago, and I have no idea where you could find one. You could write

to Auto World to see if they have any left. The kit is #C1145. You should have no trouble getting a set of slicks for your model, though. Most of the sets are coming out with optional slicks. If you do not have any of the kits with a set, you might possibly arrange a swap with a friend (like an engine, etc.) for a set of tires.

The AMT Camaro kit has a set of wide Goodyear slicks that are cast like wrinkled slicks. They are cast in white plastic, and are flat on one side with a wrinkle pattern on the sidewalls. All you have to do is spray them flat black and hit the top of the lettering with a file. They are really sharp looking and are the newest trend in drag racing tires.

**Q** Calling your attention to the Jan. '67 issue, I think you had better check the fit on that '39-'40 Ford again. The fender units on the two cars are not interchangeable. There is a cross-member on the '39 fender unit that is not on the '40. Believe me, fellas, I tried it. I got a '40 Coupe for Christmas and since I had an extra '39 lying around, I went to work. You had better set our young Californian straight before he decides to stop buying MCS. Come on boys, let's keep on our toes. What would you do without veteran builders like myself (starting my 11th year) keeping you straight? All kidding aside, you guys have a good magazine. Keep up the good work but try your advice before you give it.

**ED ALTHOUSE**  
Denver, Pa.

**A** It sounds as if you are having trouble with a simple '39-'40 Ford swap. In my collection I have a '39 Ford Coupe and a '40 Sedan that were both built as stock Fords. The fender units were not altered in any way and the brace to which you are referring does not hamper this swap at all. All you have to do is set the fender unit on the chassis and top it with the body for a successful swap without any modification. With 11 years of building experience I should think that even if the cross brace were in the way, your trusty saw could take care of it in short order.

I have been building model cars for about 18 years now, and I built model airplanes before that. Furthermore, I'm the conscientious type and never give ad-



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Long Island City, N. Y. 11101



vice unless I know it to be correct. So check those kits again and if you find them not to be interchangeable... it's not the fault of the parts!

**Q** Could you please tell me where to get the AMT Allison engine and a 1/25th scale Austin Healy Kit? Also, where can I get back issues of Model Car Science? I think your magazine is great.  
JERRY JOCOUZZI  
Fairfield, Conn.

**A** Jerry, you are looking for two kits that were discontinued about three years ago. A quick check with the Auto World catalog shows they no longer carry these either. You will just have to try some of the small hobby shops in your area to see if one of these kits might be stuck back in a corner somewhere. Sorry I could not be of more help on this one. For back issues of MCS send 35c to: Delta Magazines, Inc., 131 Barrington Place, Los Angeles, Calif. 90049.

**Q** Here are some TIPS from a fellow reader, TOM WOODRUFF, of Jackson Center, Ohio, which we are passing along to you:

- 1) Had trouble taking scratches off clear plastic with toothpaste? Maybe you are using a brand that is too harsh for this job. Try Colgate Regular. Some like Macleans or Crest will actually eat into the plastic.
- 2) Next time you consider using

corduroy upholstery in one of your cars, try this: Apply masking tape to the back of the material before you cut it to shape. This gives a surface to draw patterns on, gives a clean non-raveling edge, and glue won't soak through.

**A** TOM, thanks for the helpful hints. I'm sure these will prove useful to some builder along the way.



"He specializes in miniature ambulances."



You can still buy the  
**1967 Model Car Racing Handbook**  
But hurry — quantity is limited!  
**Order Now**

124 pages of:  
Winning drivers' secrets  
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(please fill in your zip code)





Radio control cars are on the scene, and one of the first companies to actually have a car is Monza Accessories, 7837 Sepulveda Blvd., Van Nuys, California. While the car is not yet actually in production, we did get close enough to look at the advanced prototype. The scale is 1/12, and it offers quality components at a reasonable price, considering the sophistication of the equipment. The chassis is extra light, and reinforced, with fuel tanks integrated into the sides for strength and weight distribution. Wheels are machined aluminum, and incorporate a special locking device. The axles are 1/4" diameter, and made of hardened steel. The .15 muffled engine uses a modified throttle and exhaust arrangement, and is parked side-winder style (sounds like a slot car, doesn't it!) driving through trued racing tires, specially designed for maximum road adhesion on asphalt and concrete, as well as wood and other smooth surfaces. The most well-guarded secret of the entire car is the clutch arrangement, and so far, the engineers at Monza aren't giving out details. Radio equipment will consist of a two channel digital proportional system, of their own design, and fitted to the chassis. Included are a 27 mc transmitter, with a tuned receiver, two servo motors capable of 4 to 8 ft. lbs. of thrust, a battery arrangement, and the antenna. Write directly to Monza for a free spec sheet. Prices and specifications are not final, but the price is predicted in the \$299.00 to \$399.00 area, depending on equipment.

12 / model car science



A special car lettering kit that makes the job easy-but-expert, is available from Auto World. It's not a decal. No water — no cutting — no mess! Just rub on. Goes over ridges, rivets, odd shapes and forms. Eight assorted sheets of vari-

ous sizes of letters and numbers are included in the kit for 1/32 or 1/25 scale. You can get black kits, for light colored cars, or white for dark colored. Price for the complete kit is 98c, plus 35c packing and postage.



Own this untamed beauty for \$8.98! It's an exciting 1/12 scale model of the Mustang G.T. Fastback, by Renwal. Daubed in British Racing Green paint, complete with G.T. stripe and whitewalls, this sarcastic looking "courage carriage" boasts a creamy beige interior that's a cinch to be tops in the model car field. There's also a fully operating

steering system, windows that crank up and down, doors, hood, and trunk that open, and foldup front and rear seats! And Gloryoski Zero, down there where the road rushes by, you'll even run across a fully detailed undercarriage and suspension! Should be available by early Fall, 1967. Watch for it!





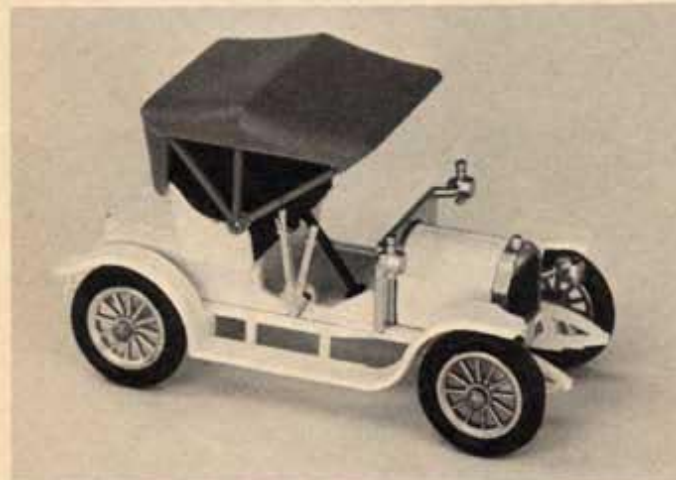
A 1/24 scale model of the "Hurst Hairy Olds" is now available from Monogram Models, and it's a sizzler! It's an exact and exciting replica of the well-known 4-wheel drive Funny Car that has been terrorizing drag strips all over the nation. You get a one-piece body, two complete Toronado engines, with GMC blowers,

underframe, and interior detail, plus drag slicks on all four wheels. \$2.00, at progressive dealers everywhere.

A hot Super Modified Sportsman for slot or shelf is on tap from Monogram, also! It's a double-take of Don Edmund's famous oval track machine, in exact 1/24 scale. The Monogram good guys have dupli-



cated the tube frame and roll cage, one-piece upper body and full-race "327" Chevrolet V-8 used in the real thing. The kit easily converts into a slot car, for an entirely new class of racing. It's highly detailed, loaded with chrome, and has full-color decals. All this for \$1.50.



Each model a collector's treasure! And while this has always been true with all of the exciting "Matchbox" models in the past, the 1967 cars from this famous English manufacturer has us weeping for joy! There are hundreds of cars available, so the only way you can really see and appreciate all of them is to order their free

catalog. Write to Fred Bronner Corporation, Dept. MCS, 120 East 23rd Street, New York, N.Y. 10010. They'll get one right out to you. In this comprehensive catalog you'll find such famous old timers as the 1909 Open Coupe shown here. It's model Y-4, and sells for \$1.50. There are many others in the "Matchbox" collection, of



course, such as a 1911 Model "T" Ford, 1911 Renault, 1910 Benz, just to mention a few. And you can carry all of them in the official "Matchbox" Collector's Case, number CC348, which is priced at a low \$3.29. It offers many compartments, to keep your collection snug and safe.



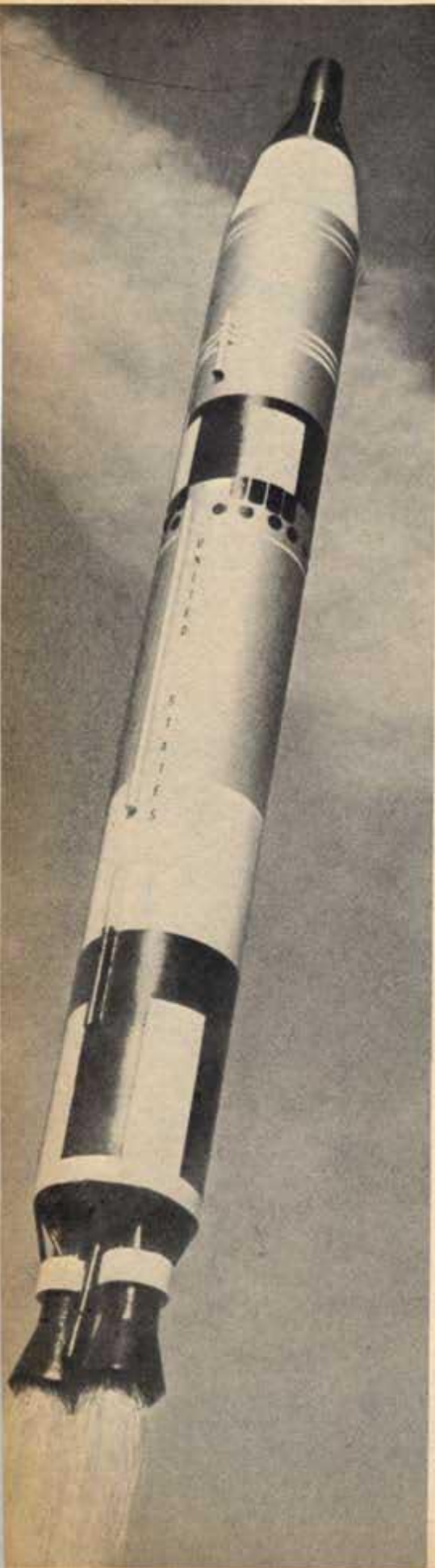
Vest pocket railroading is here, and it's now possible to obtain "N" gauge trains from an American manufacturer,

Revell, Inc. A complete line of power and rolling stock is offered, and a catalog can be had by writing to Revell, Dept.

MCS, 4223 Glencoe Ave., Venice, Calif. 90292. Shown is their Yard Iron Roustabout, a Baldwin Diesel freight set.

September 1967 / 13





# THE WAY OUT WORLD OF MODEL ROCKETRY

Reach for the stars

We live in the most fascinating age in the history of our planet — the Space Age! Our astronauts, and the cosmonauts of Russia, are actually reaching for the stars, and within a few short years, civilized man will set foot on another planet for the very first time.

It's no wonder then, that today's youth look forward with great anticipation to the new developments tomorrow will bring. Will we inhabit the moon? Is there life on other planets? These are questions that will soon be answered, and they'll be answered *tomorrow* by the inquisitive young people of *today*.

Unfortunately we can't all become rocket engineers or great scientists, but that certainly doesn't mean we have to sit back and give up our interest in this fascinating subject. There *is* a way to explore the Space Age without endangering life and limb, or spending huge sums of money! You don't believe that? Then you haven't been exposed to one of the most thrilling hobby-sports in the world — model rocketry!

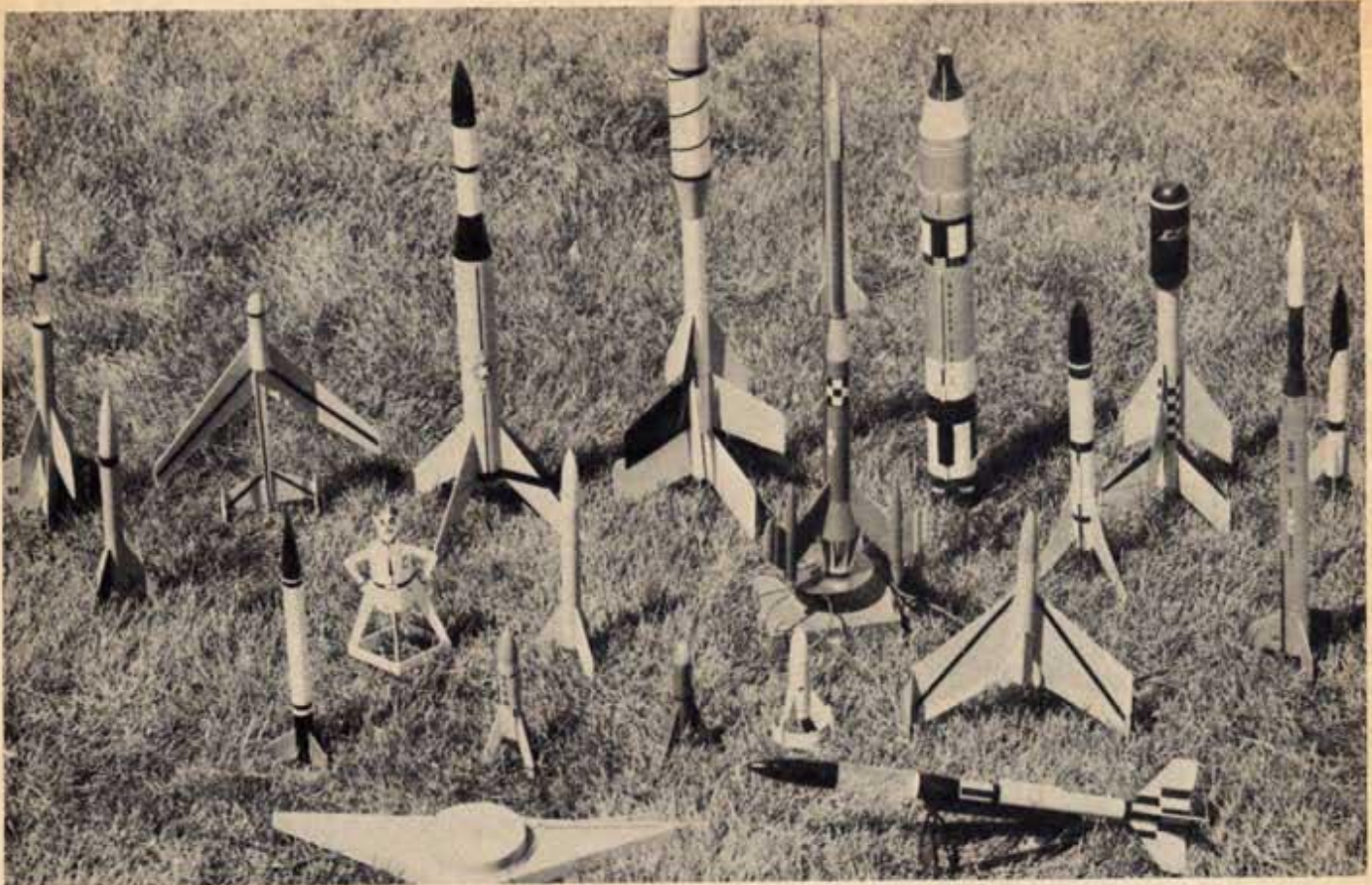
Model rocketry! It gives you a little thrill just saying the *words*! But what exactly is it all about? What can you do with a model rocket?

Model rocketry is the sport of building and flying model rockets, under safe, controlled conditions. A model rocket can be purchased in kit or built-up form from several model rocket manufacturers, or it can be built from "scratch," using material specially designed for this purpose. Estes Industries of Colorado is one of the pioneer companies in the model rocket field. They graciously supplied us with the necessary information and material needed for this article.

The followers of this hobby are called "Rocketeers," and they wear the label proudly. They build and fly their "birds" with the same professional pride that the people at Cape Kennedy fly their Jupiter and Saturn vehicles. A model rocket and a real rocket share many of the same basic problems. Consequently, the model rocketeers and the NASA people at the Cape feel a great sense of camaraderie. The NASA people realize that many of the scientists, engineers, mathematicians, and other technical people will come from the elite ranks of these model rocket people, and they encourage the sport in every possible way.

By Raymond E. Hoy





Estes Industries offers a range of rockets that no doubt makes Uncle Sam and the Russians turn green with envy! All are reasonably priced, and easy to build and fly.



Model rocketry attracts people from all age groups. At a typical model rocket meet you'll see high school students talking "shop" on equal terms with professional rocket people from Uncle Sam's formidable NASA organization!

A model rocket is simple in principle, as you can see in the drawing. Most of these rockets utilize lightweight balsa and fiber construction, with no dangerous metal pieces. And the rocket motors are safe enough to ship through the mail!

One point should be made clear, immediately. Building and flying model rockets is as safe as building and flying model airplanes, provided you follow a few simple, common sense rules. Unfortunately the sport received a "black eye" right after the Space Age was ushered in, in 1957. "Would-be" basement scientists all over the country started experimenting with home-brewed rocket motors, and rocket bodies made of metal tubing. When these lethal rockets exploded in the hands of these rank amateurs, the effect was the same as a hand grenade going off.

Vern Estes, the moving force behind Estes Industries, was also interested in model rockets, during this same period. It didn't take him long to realize that playing around with metal rockets and exotic fuels was not the way to go! As a result of his interest, model rocketry today is as safe as flying model airplanes! The entire range of Estes rockets is a tribute to his dedication to safety and performance.

To further insure safety, a non-profit national organization was formed, called the National Association of Rocketry (NAR) Technical information is distributed regularly from this organiza-



tion, and regular competitive events sponsored.

The first International Rocket Meet was held in May of 1966 in Czechoslovakia. Entries from Poland, East Germany, Hungary, Yugoslavia, the U.S.A., and Czechoslovakia competed, with Czechoslovakia coming away from this pioneer event in first place, followed by the U.S.A. More meets are planned.

It's no wonder then, with international competition planned, that the interest has continued to grow. The increased interest also means increased competition, and the technical papers emitting from manufacturers like Estes Industries, to their customers, delve into subjects such as increasing stability, multi-staging rocket motors for greater payload carrying ability, altitude tracking refinements, drag calculations, and similar papers.

Our nation's educators also realize that students who are model rocket buffs, also seem to be more interested in Physics, Meteorology, Biology, and associated subjects in school, since they want to be able to apply what they learn in school, directly to their rockets, so they can be more competitive!

You can study the drawing of the basic rocket, and see that essentially, it is simple in design. Since no guidance system is used, the rocket needs assistance during the crucial launch period to set it on a straight course. That is what the vertical rod is used for on the launch pad. The rocket attaches temporarily to this rod. The rod guides it during lift off and sets it on its way in the proper attitude.

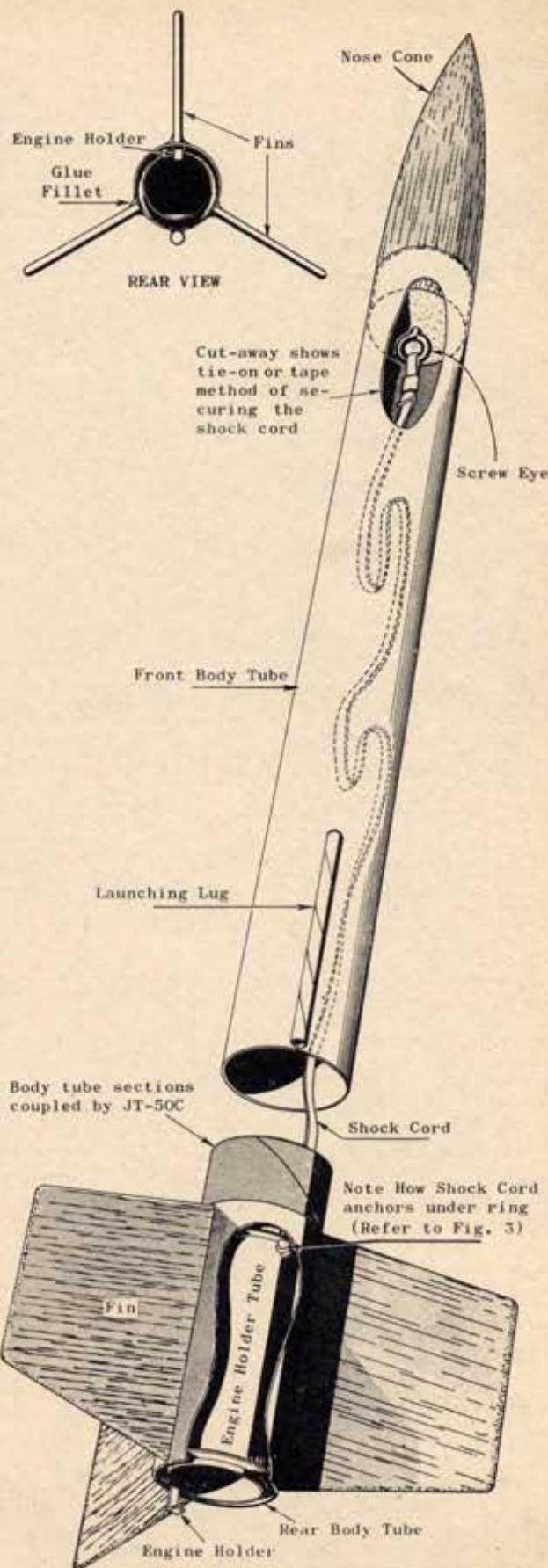
Each rocket utilizes a parachute return system, to insure safe return to earth. Sophisticated rockets can be purchased or constructed, with two or more stages. There is even a magnificent little camera, specially designed for the Estes rockets, that will take photographs from unreal altitudes, with perfect clarity!

The complete dope on the entire Estes line can be found in their gorgeous catalog. Check their advertisement on page 8 of this issue, for more information on how to get it.

You can start small, and work up as your skill increases. Estes offers several "starter" rocket kits, at prices around \$2.00 for the entire set! The rocket motors are very inexpensive too. This is *not* an expensive hobby by any stretch of the imagination! It *is* one of the most satisfying and rewarding hobbies going, however. Yours truly is thoroughly hooked, and I'm already well into an advanced model rocket, based on Estes parts, and you'll no doubt see it in future issues of MCS.

If you dig this sport the way I do, drop me a line and tell me so. Address letters regarding this fascinating subject to: Raymond Hoy, Editor, MODEL CAR SCIENCE, 171 Barrington Place, West Los Angeles, California 90049. Write "ROCKETS" across the envelope, to expedite it.

Now if you'll excuse me fellows, I'm working up a new second stage ignition system for my new moon probe!



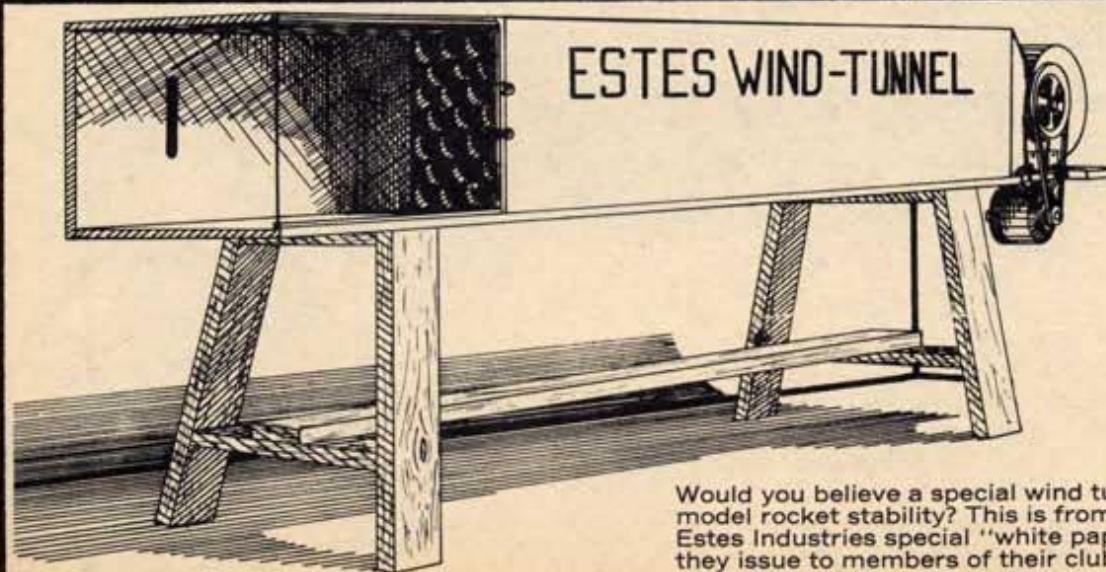
A typical single stage model rocket. A wide variety of single and multi-stage rockets are available from Estes Industries, Inc., Dept. MCS, P.O. Box 227, Penrose, Colorado 81240. Check their ad in this issue for further information.





A youthful rocketeer sends his own special creation skyward in a cloud of smoke. As exciting as rocketeering is, it is as safe as flying model airplanes!

Check with your local Fire Department regarding possible restrictions on this type of activity before ordering.



Would you believe a special wind tunnel for testing model rocket stability? This is from one of the Estes Industries special "white paper reports" that they issue to members of their club. Information can be found in their catalog.



# CLASSY

Concoursing Monogram's Lincoln Continental





# CLASSIC

The Lincoln Continental was originally conceived in the mind of Edsel Ford in 1938 as a personal car for himself. The car was based on a 1939 Lincoln Zephyr, but special inserts were made to extend the hood and front fenders a full twelve inches. To get the car lower, the door panels were sectioned four inches. Other body pieces were formed by hand. The designer wanted to put the spare tire in the trunk, like the cars of today, but Mr. Ford would not stand for it, and the tire stayed on the outside.

While Edsel's car was being made, he decided to have two more "Continental" made for his sons, Henry II and Benson. Thus three cars were to be the total production of Lincoln Continentals. However, Mr. Ford was in Florida when his car was completed, and it was sent to him there. When he returned, some 200 of the people who had seen it, wanted one. Because the public interest in this special car was so high, they decided to make 500 units for public sale, but by public demand it was kept in production until 1948. In the six years it was manufactured (it was not built during the war years of course) almost 5,400 Continentals were produced.

All Continentals were virtually hand built. No assembly line stuff for a car like this! The 1940 models shared much of the Lincoln Zephyr trim, and the early Continental bodies had nothing on them to indicate they were really a Continental. Going by the name on the hubcap, an unknowing person would think he was looking at a "Lincoln Zephyr." However, with the introduction of the 1941 model, the Continental had a name plate proclaiming it a true "Lincoln Continental."

If you need proof that this car is a real classic, you'll be happy to hear that the Classic Car Club of America has it registered as a full classic, right up to the 1948 model. If you are interested in information on the Lincoln Continental, Floyd Clymer Publications has a book by O. C. Ritch called "The Lincoln Continental." If you can't get it in a book store, write to Floyd Clymer Publications, 222 N. Virgil Ave., Los Angeles, California. The cost is \$5.00. This book also describes the Continental Mark II.

Monogram's authentic model of this great car is moulded in dark blue. The chrome side trim has been moulded separately, eliminating the need for hand painting. Detail is superb!

If you're a real stickler for complete authenticity, here is how your Continental should be painted. The body is already moulded in dark blue, and although it looks great even unpainted, it would be best to spray it a dark blue. The inside of the hood, firewall, and engine compartment, should be painted the same color. The engine is forest green, cylinder heads are aluminum, and the intake manifold and carburetor are aluminum. All other parts are black.

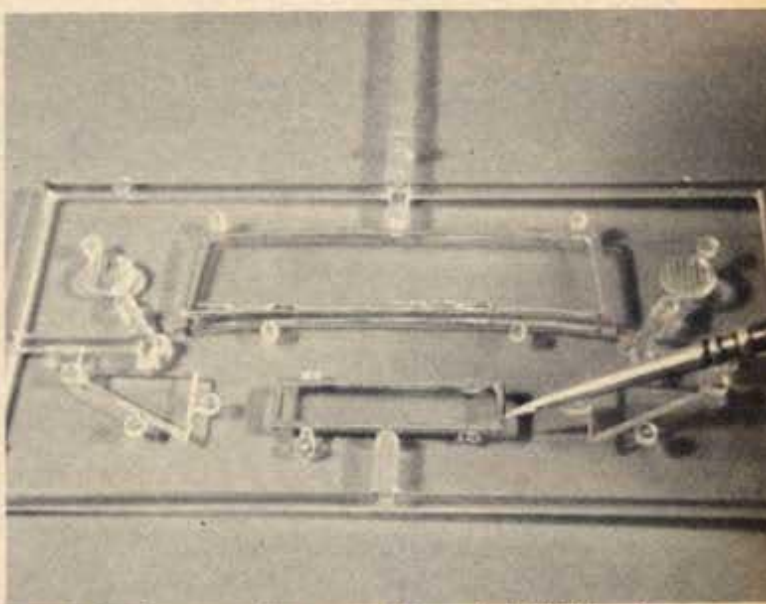
The dashboard is mahogany wood grain. Steering column, wheel and shift lever are an off-white. The interior colors can be red, brown, black, gray or light brown.

I am sure you will all agree that a grill that has had the spaces between grill bars painted flat black, looks better than an all-chrome one. One method of achieving this is to dilute the paint to the consistency of water then brush it on. However, I prefer to use unthinned paint. Paint a small portion of the grill, and before the paint dries, wipe the excess off

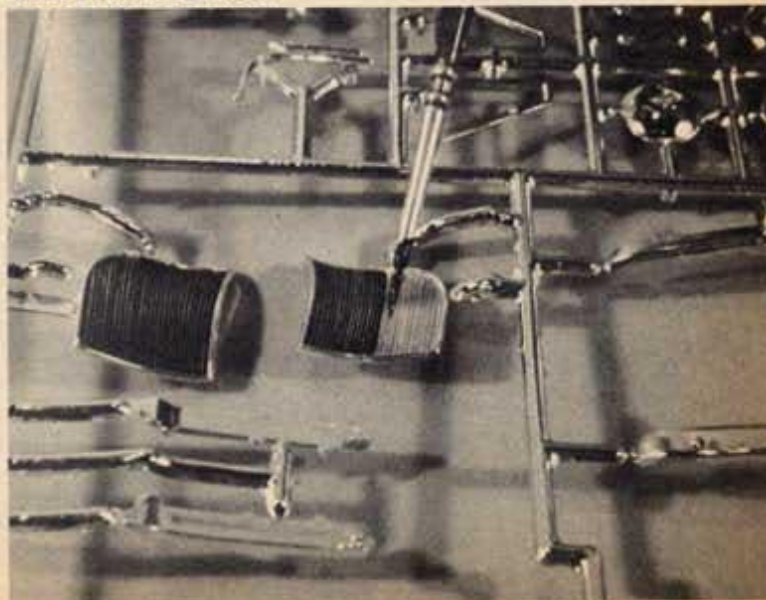
the grill with a soft cloth. This method will remove the wet paint from grill bars, while leaving the paint between them intact. If you let the paint dry too much, it can be removed with wax. Use any method that works best for you, but definitely paint those grills.

The rest is simple. Just follow the photos, and you should come up with a really detailed Continental. Remember, classics are IN.

**By Dennis Doty**



**Paint the chrome trim around the windshield and rear window. Use flat black between the grill bars. See text for full details. The interior should be sprayed flat blue, or else use glossy blue, covered with Testor Dullcoat.**



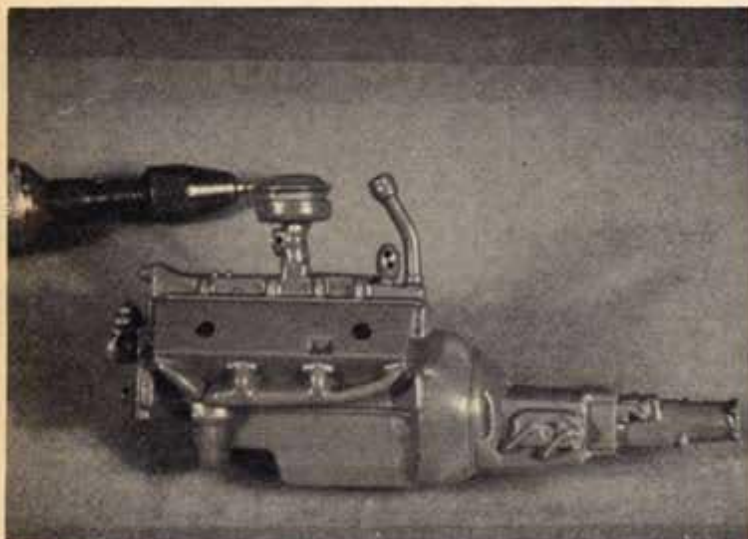




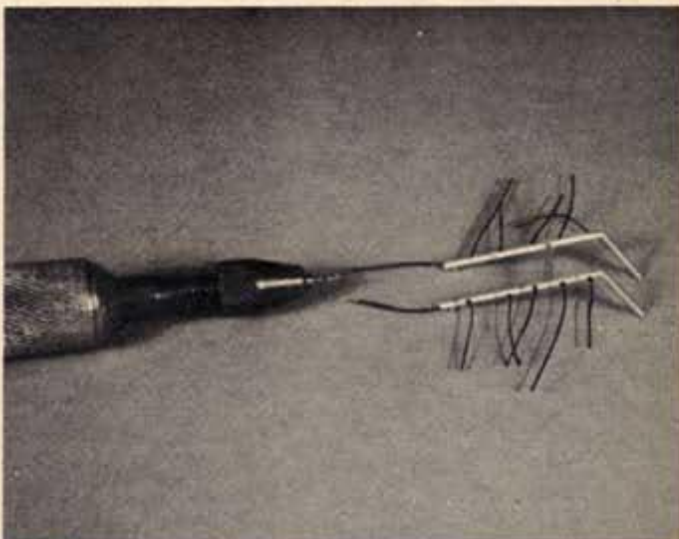
*Mask off the spare tire cover, then paint the exposed tire flat black.*



*Detail the instrument panel as shown, using a fine pointed brush and a steady hand. Tape the unit to a piece of cardboard to hold it while you paint.*



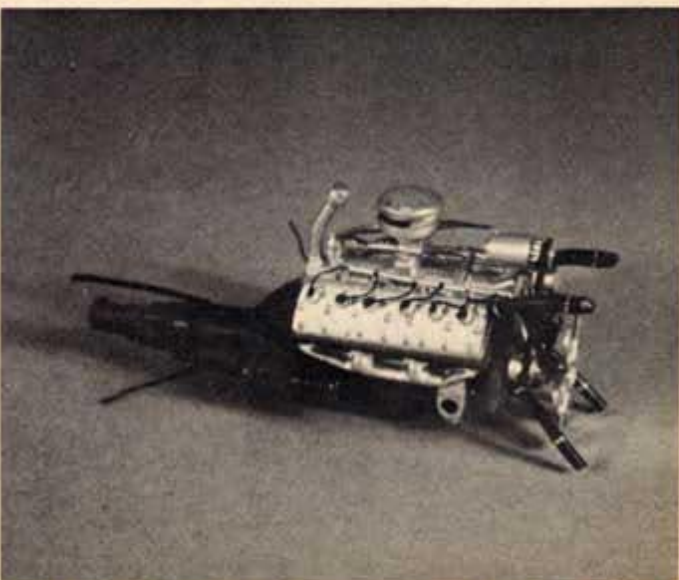
*Drill one hole in the carb, and two in the fuel pump. Run a line from the gas tank to the pump, then from the pump to the carb.*



*Drill six holes in each side of the wiring harness. Cut twelve pieces of thread and glue them to these holes. Let them dry thoroughly.*

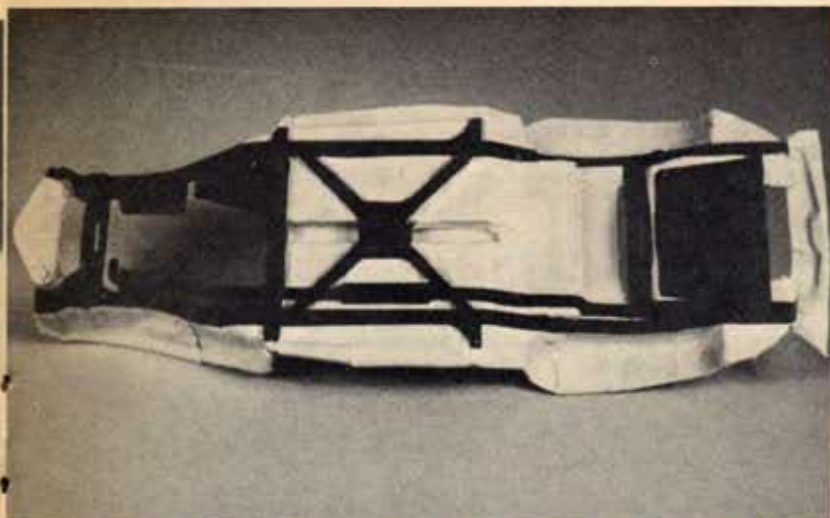


*Drill a hole in each side of the block, just below the water pumps, for the radiator hoses. X-Acto blade points to the pumps.*

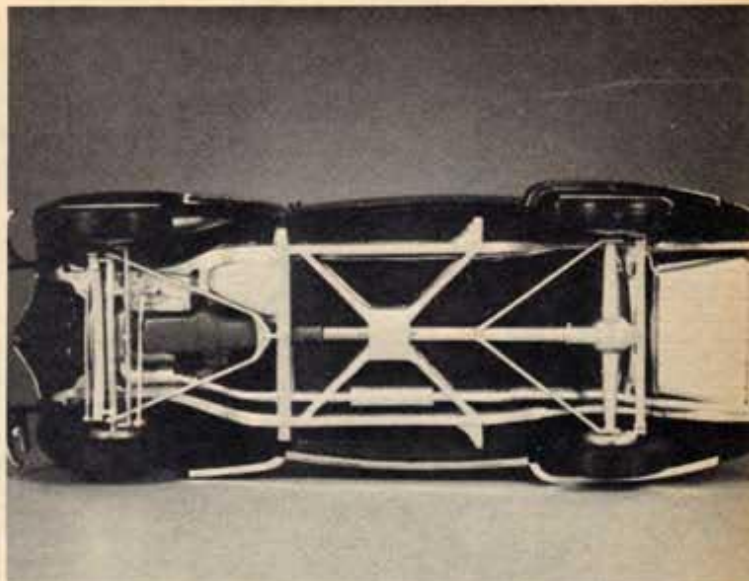


*After the engine has been completely wired, it should look like this. Boss man!*





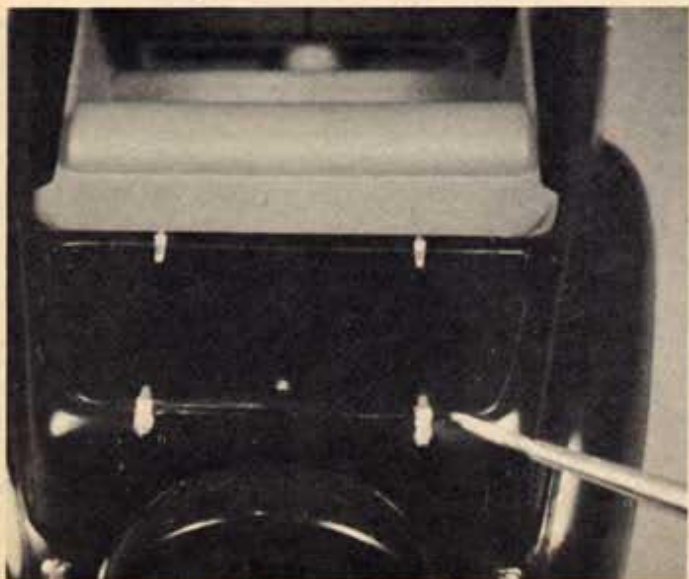
*Mask off the frame and spray paint it. It requires a bit more preparation to do it this way, rather than paint it by hand, but the finished job is worth it. Finish off the undercarriage with gas and brake lines.*



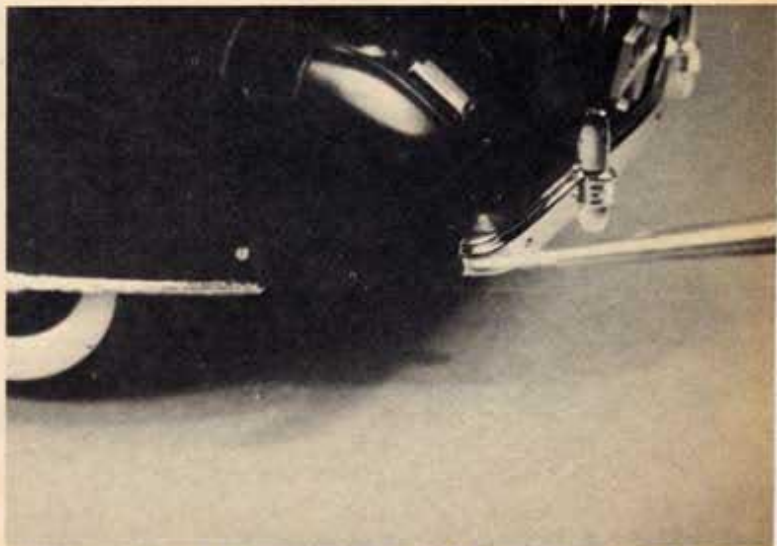
*The top should be sprayed either tan or black, if you want to be really authentic. And of course, you do!*



*Paint this portion of the rear fender, flat black. And please take your time! This car deserves it!*

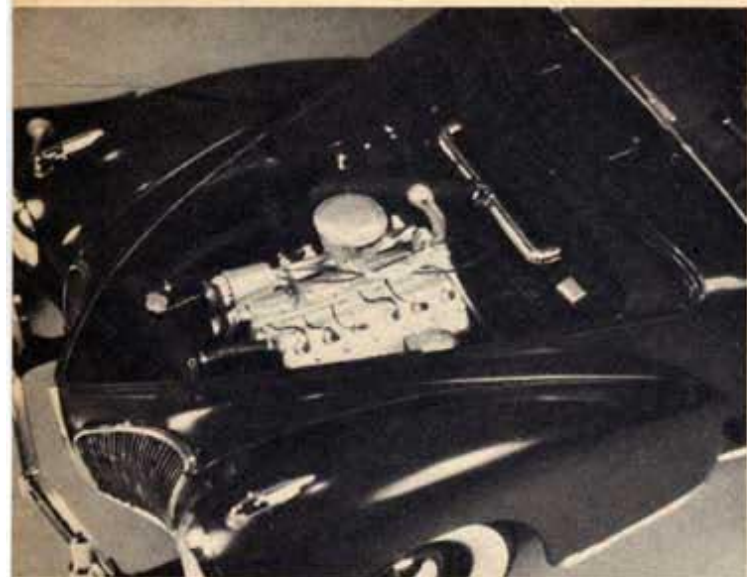


*It takes very little time to paint the small chrome trim, and it adds so much to the final appearance.*

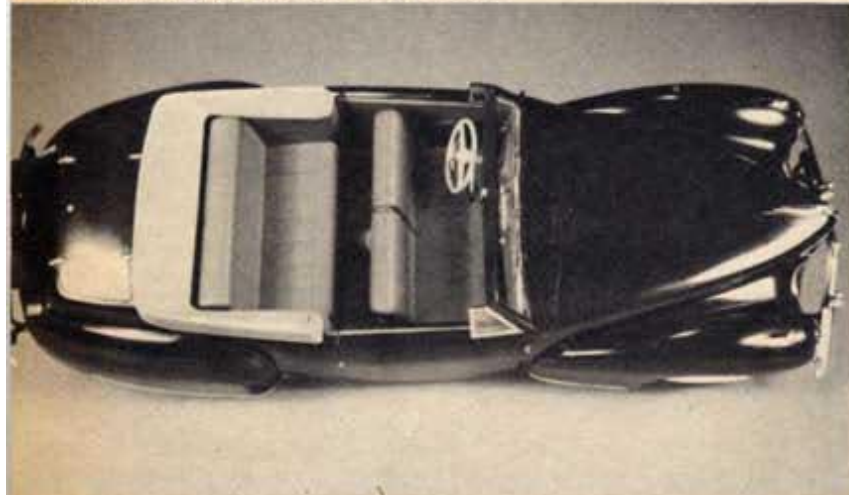


*After the model is completely finished, go over all the chrome pieces with chrome paint and touch up the spots where the part was cut from the runners.*

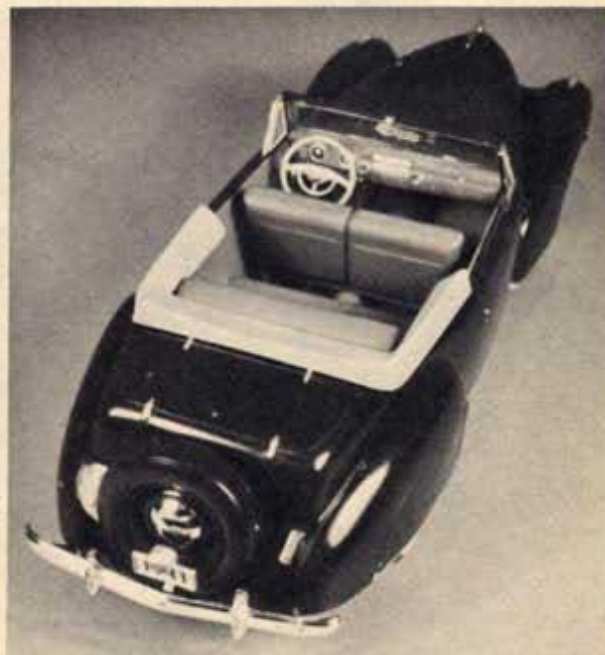




*Include all possible wiring in the engine compartment. Leave the hood removable, so you can show off that beautiful engine! The hood prop can be made easily by using piano wiring.*



*With the top down, your friends can ogle that luxurious interior. And there's a lot to ogle!*



*The finished model is a real work of art, thanks to those master craftsmen at Monogram. You only get out of a model what you put into it of course, so use a lot of patience and tender loving care. Your reward will be a model that you can display with pride.*







# LOOKING FOR A GOOD RACING PROGRAM FOR YOUR LOCAL SPEED SHOP? FOLLOW THE LEAD OF THE CMRA. **SPEED RALLY...** **CALIFORNIA** **STYLE**

The California Model Raceway Association's Spring 1967 Professional Racing Program was recently topped off with their Championship Runoff race held at Classic Speedway, 1853 Lincoln Blvd., Santa Monica, California. Ten weeks of preparation and racing preceded the Championship Race in which professional level drivers from all over the greater Los Angeles area participated. During the ten weeks races were held at the following CMRA member stores:

**1st week's race**  
**Bernie's Hobby Center**  
7560 Melrose Ave.  
Los Angeles  
**3rd week's race**  
**Revell Raceway**  
12450 Burbank Blvd.  
No. Hollywood  
**5th week's race**  
**Rolling Hills Raceway**  
25314 Crenshaw Blvd.  
Torrance  
**7th week's race**  
**Raceland**  
4959 York Blvd.  
Highland Park  
**9th week's race**  
**Revell Raceway**  
6840 La Tijera Blvd.  
Los Angeles  
**11th week's race**  
**Classic Speedway**  
1852 Lincoln Blvd.  
Santa Monica

At the Championship Race, thirty one drivers participated in a tightly run race which saw Jerry Cowan emerge the overall winner after an evening of hard fought qualifying heats, consolation, semi main and main event. Fourteen trophies were awarded along with merchandise provided by Rikken, VC, Simco, Competition-Pactra, Champion (LA), Mura, Thorp, and Dura-matic.

A Concours de Elegance event was held and Tom Pulfer's Honda won with small margin over the second place car of Lynn Fletcher (Mirage). Third place went to Daniel Ast for a well detailed Porsche Carrera.

The details of the race are pretty hot. The consolation races saw several hard fought struggles in which Gary Gilmore and Sam Benevides succeeded in reaching the semi main. Rich Warrington led the semi race most of the way, then lost a wheel and ended up finishing last. Jeff Martinelli had been pressing close behind Warrington and took over first place. Sam Benevides, who had to work his way up

from the Consolation races, fought his way to a final second place and thus gained a berth in the main with Martinelli. Only three laps separated the first six finishers in the Semi.

In the Main, Mike Steube started on a center lane and won the first of four forty-lap segments. However, mostly unnoticed at the time, Jerry Cowan was only two laps behind Steve on an outside lane. Moving to two center lanes in a row himself, Cowan proceeded to win the next two forty-lap segments. Bruce Erickson won the fourth forty-lap segment; but Cowan was only one lap behind him at the finish and his total laps for the four segments put him in first place with three laps over Steube who had to settle for second place. Erickson who was only one second behind Steube, took third place. For all places:

**Semi Main Finish**  
1st Jeff Martinelli  
2nd Sam Benevides  
3rd John Skeels  
4th Tom Pulfer  
5th Hans Tuske  
6th Gary Gilmore  
7th Les Churchill  
8th Rich Warrington  
**Main Finish**  
1st Jerry Cowan  
2nd Mike Steube  
3rd Bruce Erickson  
4th Jeff Martinelli  
5th Jack Garcia  
6th Sam Benevides  
7th Roger Usitalo  
8th Dale Eicke

John Gallegos had bad luck with his car in the Championship Race but, due to regular participation, plenty of building skill, and careful driving, emerged the high point winner for the CMRA Spring Racing season. Mike Levy placed second; and Jerry Cowan finished third. Each received trophies.

During qualifying, Lynn Fletcher blew a motor, borrowed another and won his heat; Lee Himes did a perfect job of turn marshalling the esses (keeping lost time to a minimum); and good sportsmanship found expression in little things like Jeff Martinelli's apology to Mike Steube for an accidental nerfing.

Regarding the CMRA, this is a group of progressive California raceways (with most of its members presently in the LA area), who have banded together with the avowed purpose of improving the model car (or slot) industry. They are in the process of developing a series of "Industry Cooperation Proposals" which they intend to make

available to all raceways, distributors, manufacturers, and publishers connected with the industry. The overall intent is to provide the public (drivers and spectators) with raceways which have improved services, cleaner facilities, better power and lap counting equipment, higher quality merchandise, more reasonable prices and more equitable and standardized racing rules and procedures.

In addition, CMRA is working with manufacturers, distributors, and publishers to develop improved products, more timely availability of merchandise in raceways, improved publicity coverage of CMRA races and other items of interest to the public.

CMRA is conducting an extensive drive to increase their raceway membership during the summer, so that the fall racing program can be bigger and better than ever. Raceway membership dues are \$9 per quarter (three months); so send yours in now and receive all of the advance information on the fall racing program (CMRA 609 Elvira Ave. Redondo Beach, Cal). The Association is also much interested in contacting other raceway organizations across the country to exchange ideas and join efforts in building a sound national organization — so write and give them your address.

The third CMRA racing season, planned for fall 1967, will be larger than ever before. Three classes of drivers are planned which will probably be called "Amateur," "Expert," and "Professional". Amateurs will race primarily in their own local raceway; while experts may race among two to four raceways in a local area and professionals continue to race at selected CMRA raceways all over Los Angeles. (A program similar to this is available to raceways outside Los Angeles so that they may, if they wish, participate in the Fall 1967 Championship runoff race).

Currently, CMRA is involved in negotiations with the Hobby Industry Association (HIA) and the Miniature International Racing Association (MINRA) with the objective of joining hands to form a truly national organization with standard procedures and rules and a national Championship in the not too distant future.

CMRA was first organized on 24 August, 1966 by a group of six raceways. Since that time, the organization has grown until it now has seventeen raceways, fifteen manufacturers, three distributors, one hobby shop, and three hundred and fifty four driver members. Membership is open to any California business or individual falling into these categories. Drop them a line. You'll be doing yourself and the sport a real favor!



# MODEL BUILDING FOR GLORY AND GOLD

*With \$117,000 at stake, the competition is naturally rough! Here are just a few of the thousands of cars being judged.*

Judging a contest — *any* contest — is hard work, no doubt about it. But judging the Fisher Body Craftsman's Guild contest is one job that is frustrating enough to tear a panel of judges to pieces!

Imagine! How'd *you* like to be handed the delicate job of choosing a winner from even the five beauties that you see on these pages? Well that's nothing compared to the task of choosing from the *thousands* of cars entered in the 1967 Craftsman's Guild contest, going on right now. The judges are concentrating intensely, trying to select the winners in the Junior Division (ages 11-15) and the Senior Division (ages 16-20), and believe us people, it's just plain hard work!

Picture if you will, hundreds of square feet of tables, completely covered with exotic, out-of-sight custom cars, with judges hovering around them, probing, peering, muttering to themselves, and making notes. Well, that's the Fisher Body Craftsman's Guild contest!

The winners will split \$117,000 in prizes, and we'll have the full story for you next month, with photos, and a complete rundown on the winning cars. If these beauties aren't enough to set your imagination running wild, we don't know what will do the trick!

What type of fellow builds these fu-

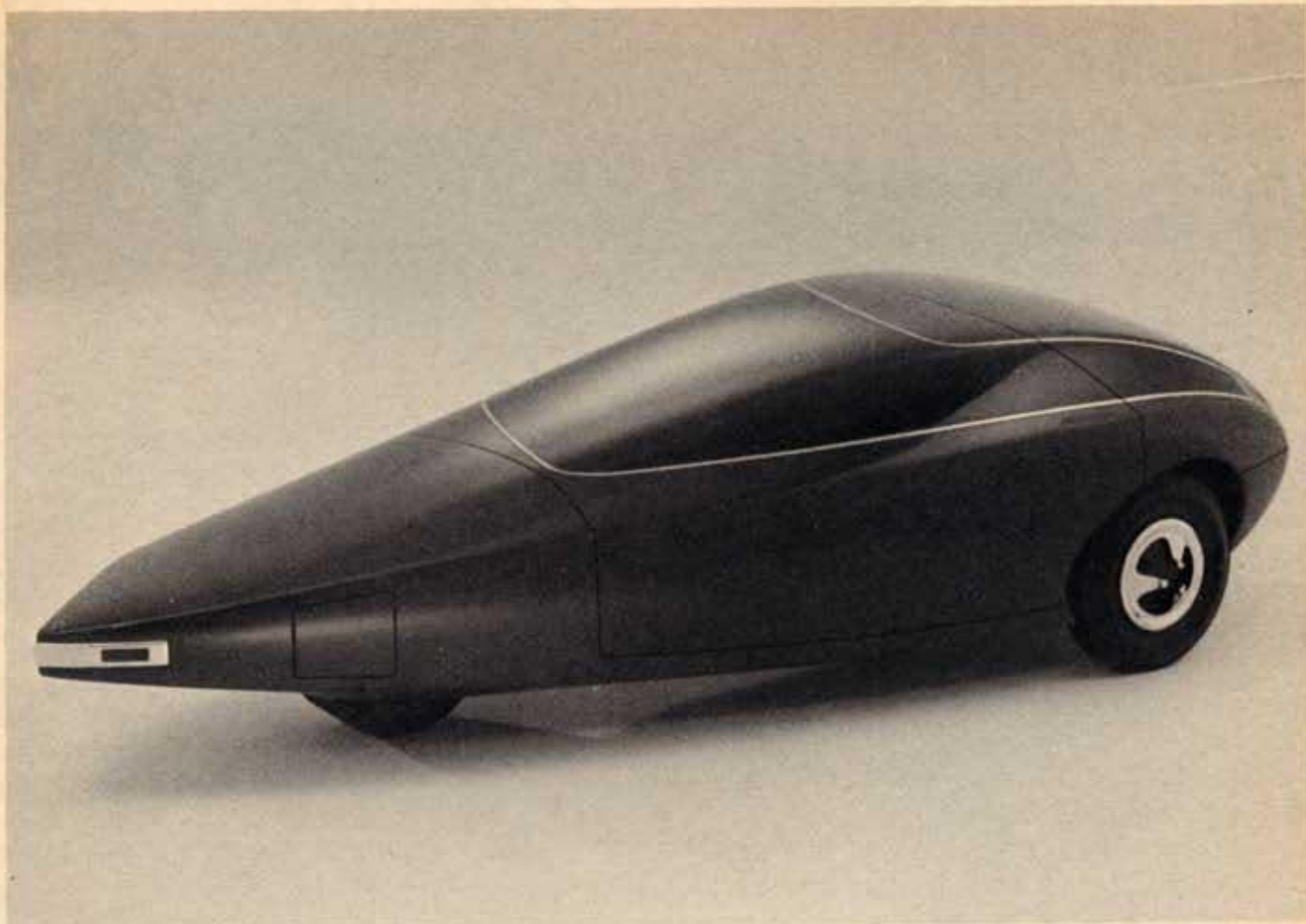
turistic missiles? Easy! Glance in the mirror and you'll find out! That's right, they come from the fertile minds of imaginative designers and dreamers, just like yourself! You don't have to have an engineering degree to enter. All you need is imagination and the ability to transfer your ideas from paper to a finished model. Some of Detroit's most capable designers have come from the ranks of Craftsman's Guild competitors, in the past, and a lot more will emerge from this forward-looking group in the future!

Why not sit down and put on your thinking cap, and begin to scheme and plan for next year's contest. Sure, it's too late to enter this year's contest, since the deadline has come and gone, and the cars are being judged right now, but it takes *more* than imagination to build a first class car — it takes *time*, and a lot of it! There's no time to start like *now*.

Next month we'll not only show you the winners of this year's contest, we'll tell you how to prepare and enter the next Fisher Body Craftsman's Guild event. To win it would be the thrill of a lifetime, and furthermore, it could even be the beginning of a life-long career for you! The people in the know at the vast automobile factories in Detroit are constantly looking for fresh talent. And believe us, this famous contest is one of the first places they look!

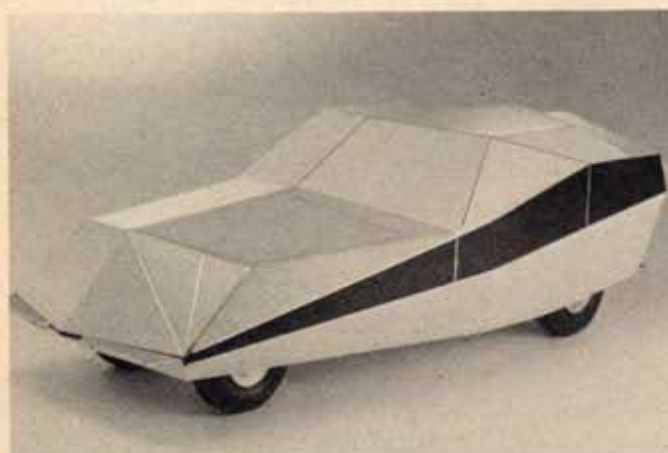
Well? Have we whetted your appetite? We hope so! We'd like to see one of our readers cop this prestige event. Watch for the winners, in the next issue!





**A very unusual entry is this Massachusetts model of a three-wheeled urban passenger vehicle of asymmetrical design. Maximum maneuverability in tight parking situations is obtained by sloping both the front and rear portions. The passenger**

**compartment opens forward and the rear engine compartment hinges aft. Other features include concealed headlights, a front safety light and radar warning both forward and to the rear.**

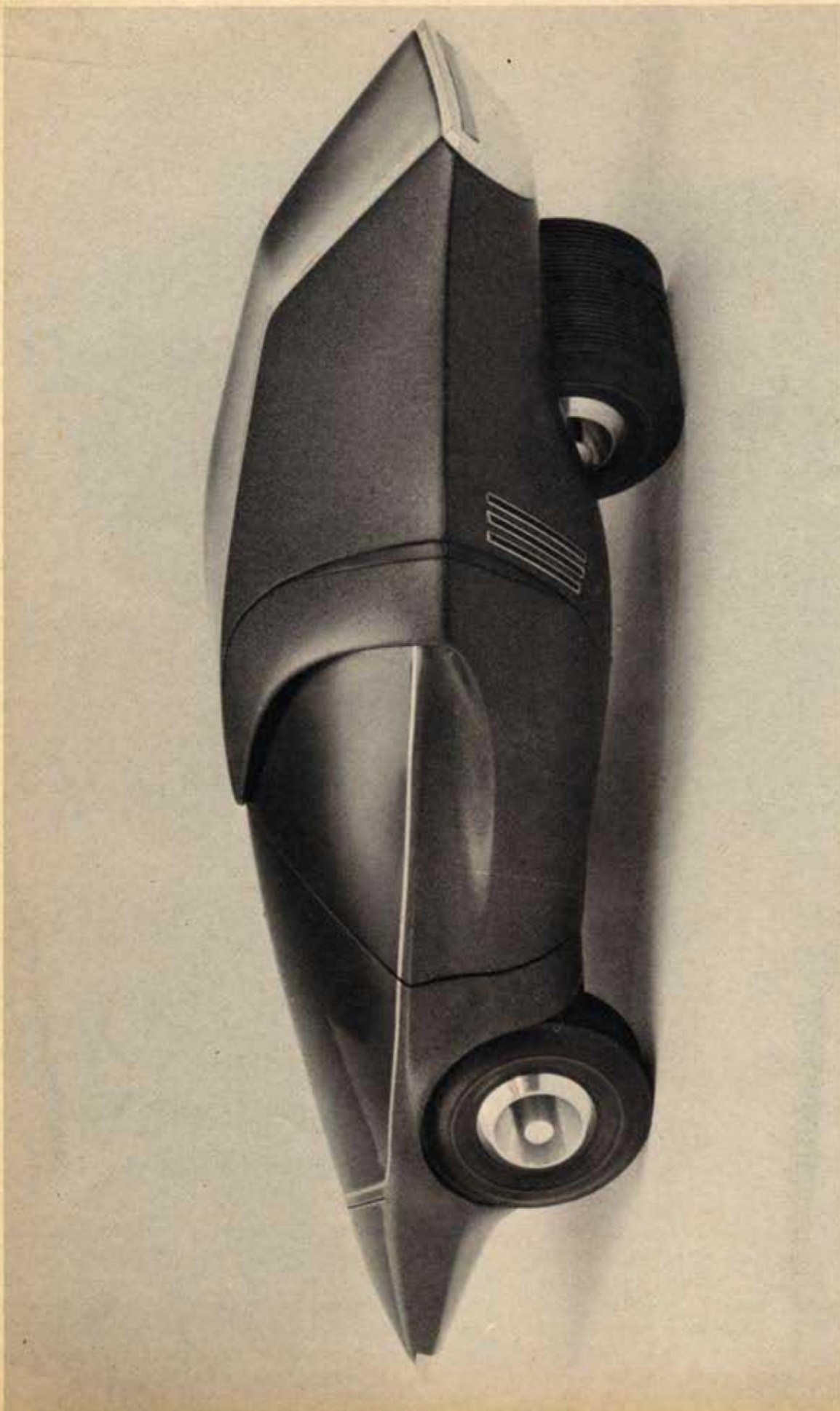


**Though the "cubist" approach is not new to the world of art, the young man who designed this model capitalized on it by planning a body featuring flat fiberglass panels that might lend themselves to rapid assembly in a high-production vehicle. Chrome moldings are used at most panel joints in this straight line two-passenger sports car.**



**Smooth, flowing lines distinguish this model submitted by a young man from Oklahoma. Concealed headlights swivel up, and the doors are hinged at the back for easy access. A turbine engine would be mounted in the rear. Ventilation for the passenger compartment is achieved through air scoops in the wheel wells.**

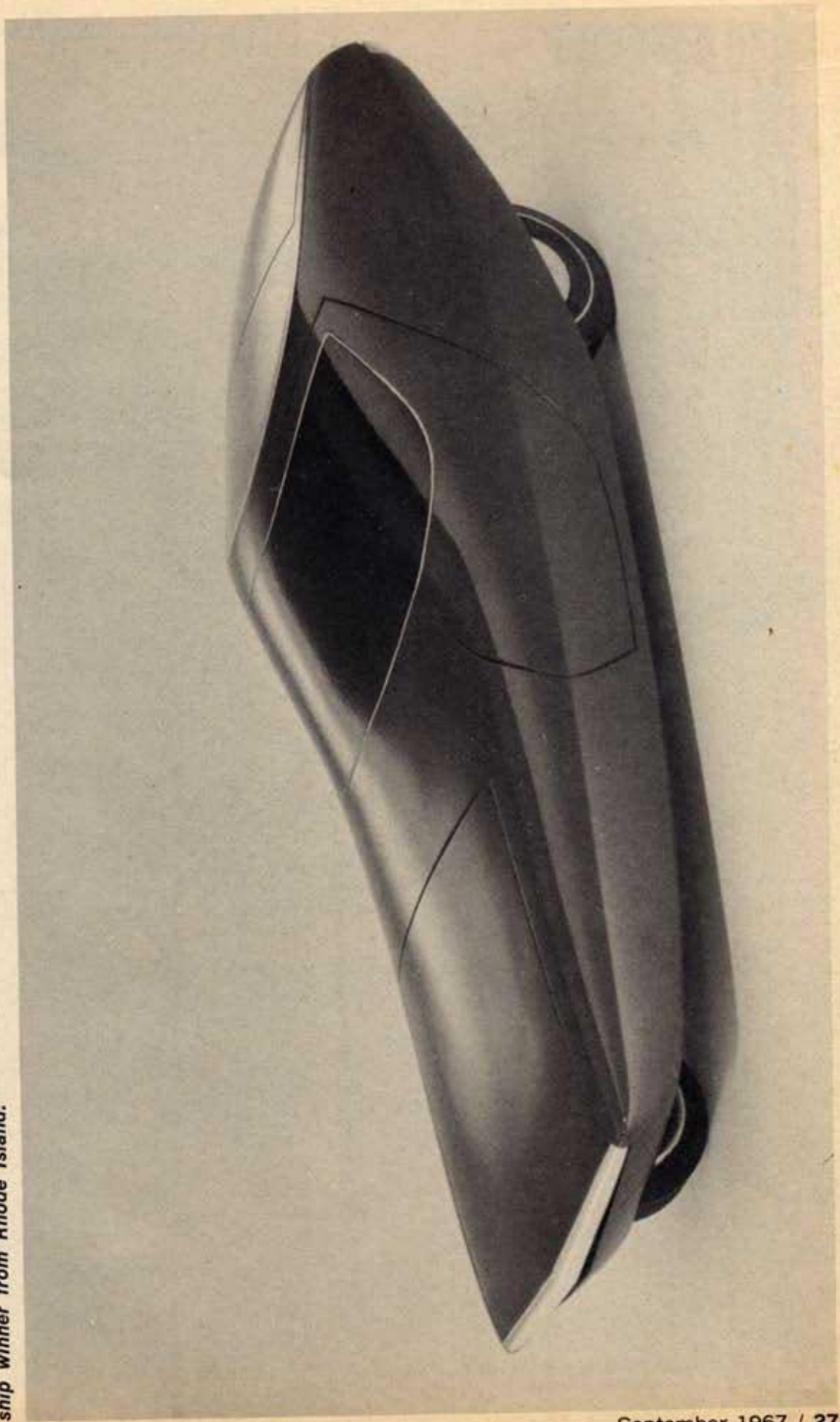




The wide rear wheel on this sleek three wheeler provides improved traction and also serves as the turning wheel for quick response in cornering and parking. Turn signals mounted above the exhaust ports permit visibility from the side as well as the rear. This one would have a rear-mounted engine and front wheel drive.



The outstanding highlight of this three-wheeled model is its extremely smooth, clean lines which tend to promote greater aerodynamic characteristics. Designed for a gas turbine power plant, the vehicle also features the rear window as an integral part of the rear deck lid. This model was designed and built by a former styling scholarship winner from Rhode Island.

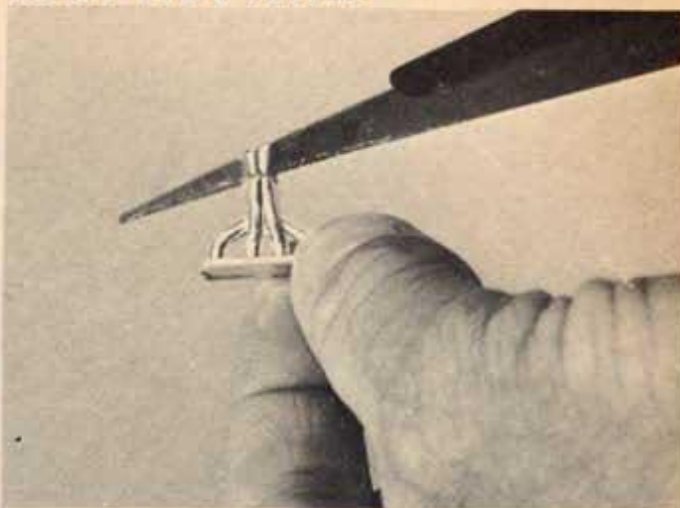




# don emmons' DETAIL FOR REAL



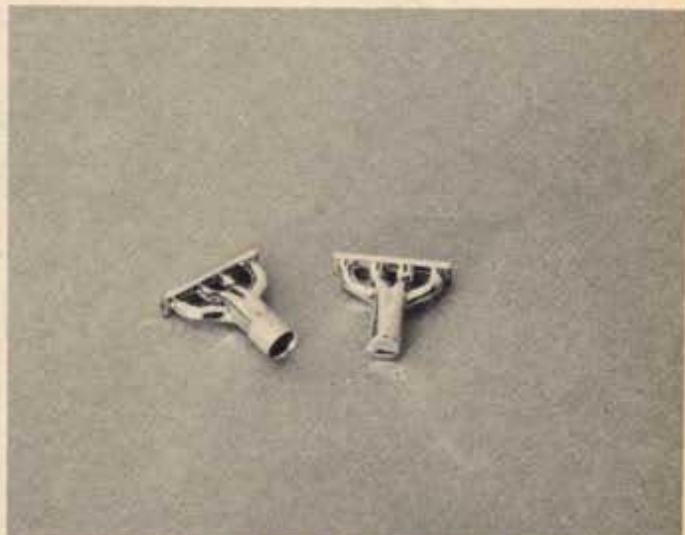
## REAL TUBING MAKES HEADERS LOOK EVEN BETTER



Cut off the end of the header where the small pipes connect to the large one. Then file the sawed area smooth.



Use a jeweler's saw to cut a small piece of 1/32-inch aluminum tubing. Length will be determined by how long the headers need to extend out from the engine.



Glue tubing to the end of the header and set it aside to dry completely. Repeat these steps on the other header. This touch of realism adds a great deal to the finished model.



Flat white paint is sprayed on to make the unit look like real painted headers. Colored headers are very much the trend these days.

28 / model car science



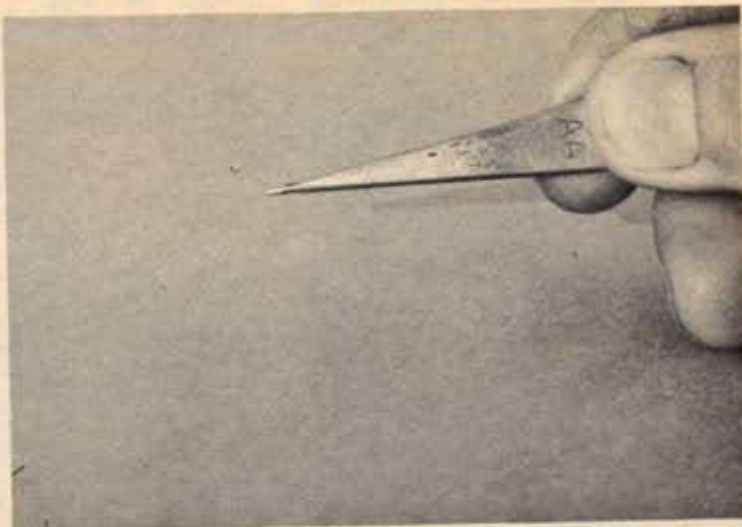
This comparison between the stock chromed unit and the reworked one is proof positive that it's worth the effort. Tubing makes the headers look real!



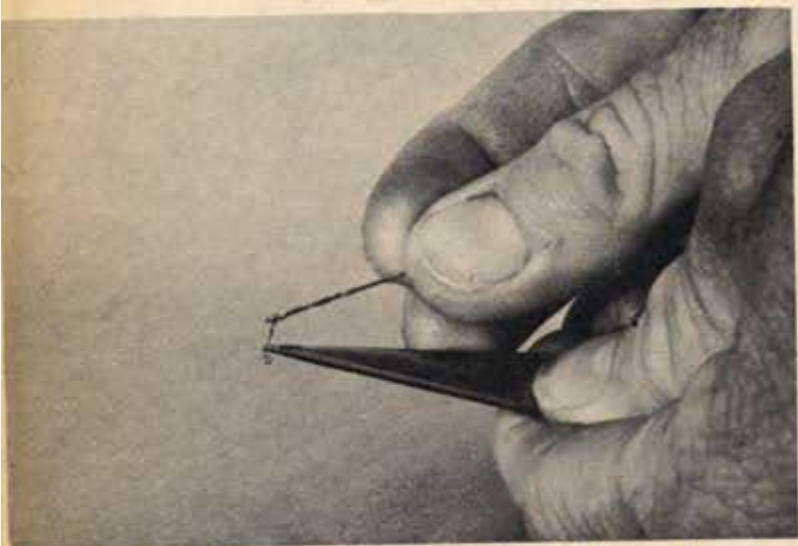
## DIP STICKS—THE "FINAL" TOUCH



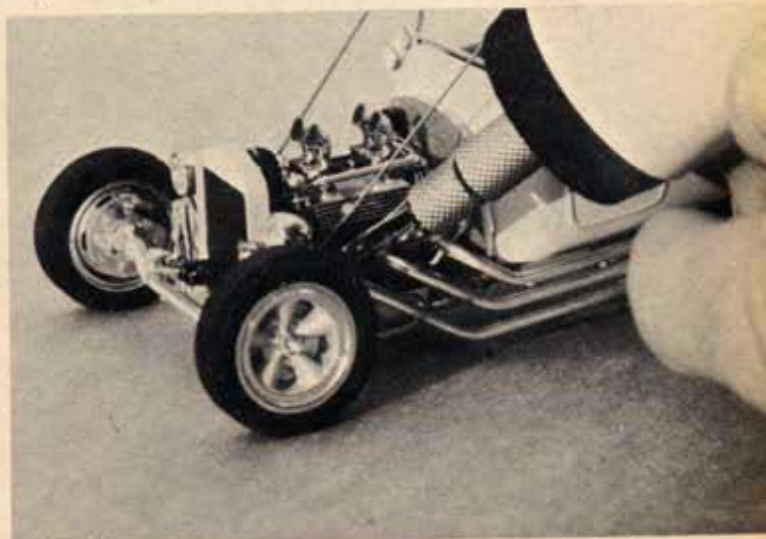
Select a piece of fine gauge wire (piano wire works very well) and bend it around the tip of a pair of pliers.



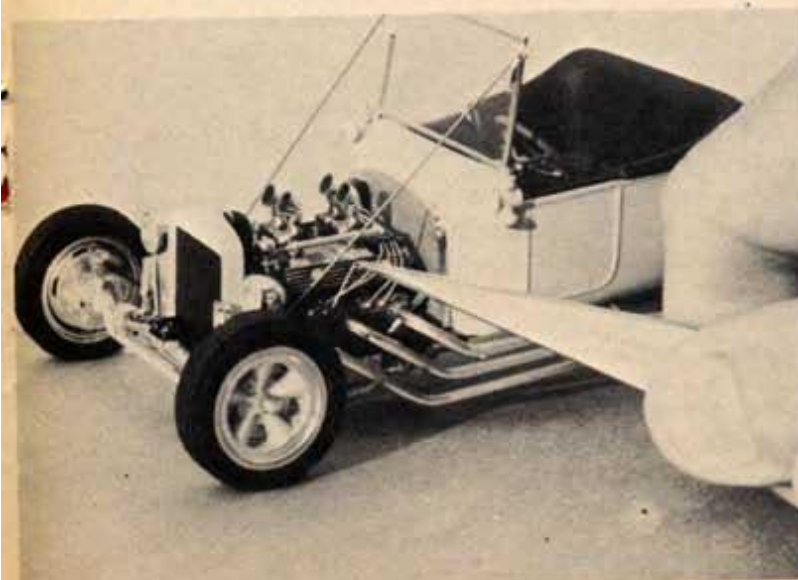
Make the loop end very small to keep it as close to scale size as possible.



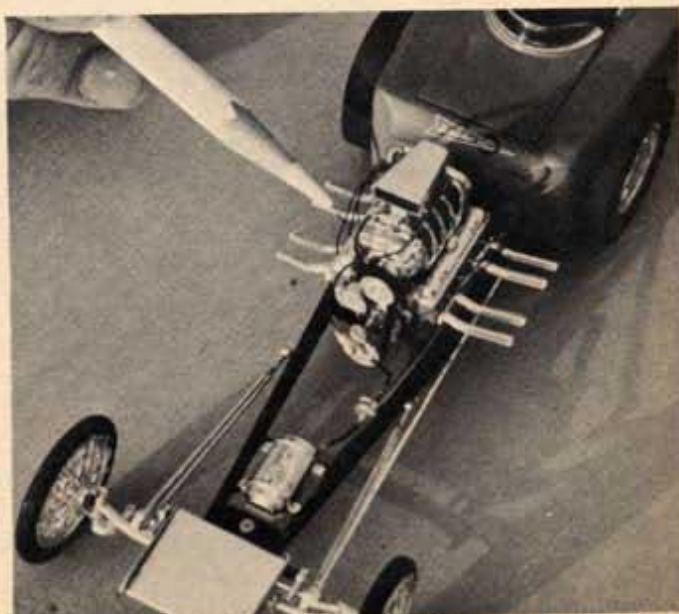
Put a small amount of glue on the other end to give the appearance of being tubing (makes it thicker). When dry, paint the glue portion the same color as engine block.



Drill a hole in the block using a very fine drill (#74 - #80). Work carefully so as not to mess up the finished engine.



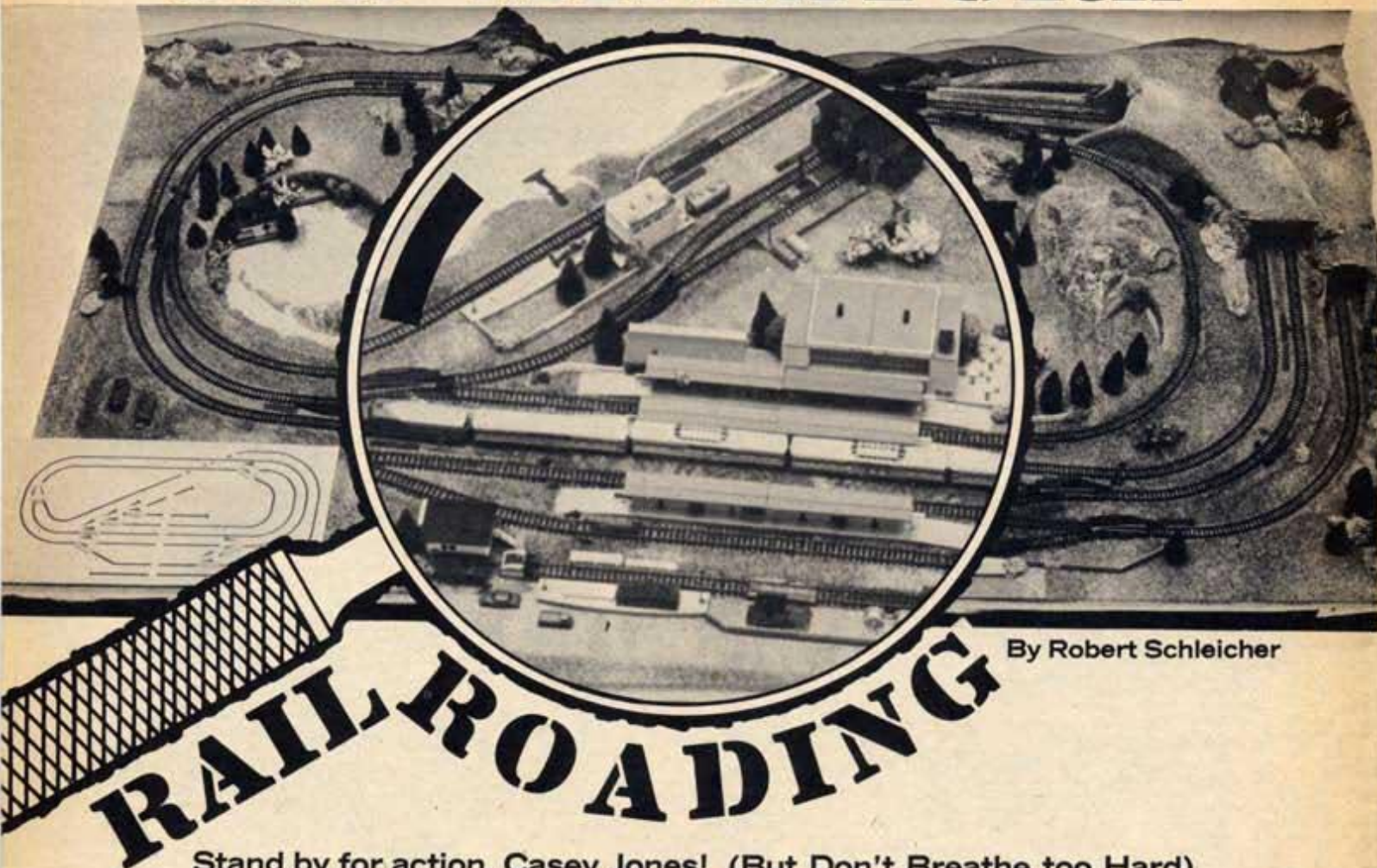
Place a drop of glue on the end of a stick and set it into the hole in the block.



Ah, yes, there it is! I suppose the next thing is oil in the pan so we can really use the dip stick.



# SUB-MINIATURE



By Robert Schleicher

**Stand by for action, Casey Jones! (But Don't Breathe too Hard)**

The next time you wait in your car at a railroad crossing, count the number of cars and the minutes as they pass by. You will usually find that there are between 50 and 100 freight cars, or 20 or more passenger cars, on one of today's main-line railroads. Think what it would be like to have trains even close to that size on a miniature railroad!

The excitement of a long train snaking its way through a series of sweeping curves is another sight that thrills the imagination of anyone even remotely interested in trains. The vision of most 3, 4, or 5-car model trains certainly seems toy-like by comparison. Imagine the super-realism if you could just double the length of a model train to 8, or 10 or more cars! You can do just that with the new sub-miniature model trains in 1/160, or "N", scale.

Extra-length trains are only one advantage of N scale. A complete model railroad will occupy only one-fourth as much space as the old stand-by HO, or 1/87 scale models. A 4' x 8' train layout is tiny in HO, but a virtual railroad empire in N scale! It would take a 16' x 16' room, in HO scale, to duplicate an 8 foot square N scale model railroad. Squeezing four times the railroad into a given space would have little advantage if the smaller trains were more toy-like. Most of the extra realism gained from the

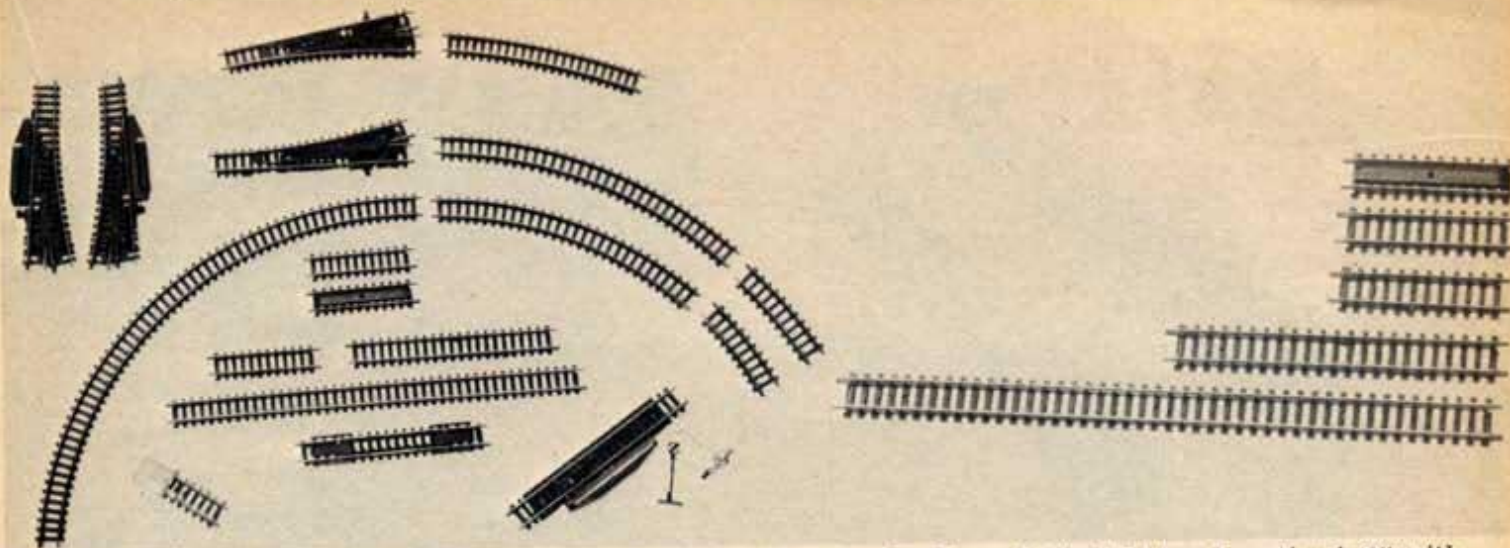
broader curves and longer trains could be lost if the trains were poorly detailed. Some of the earlier efforts in N scale model railroad equipment were very toy-like in both performance and appearance. Curves and track switches were too small, operation was faulty and track plan choice was limited to simple ovals. The Revell-Rapido system was the first to change all this and bring realism and operation into the smallest of the small trains.

The Revell-Rapido "system" begins with automotive couplers on every car and locomotive that function every bit as well as any in the larger scales with an added advantage of easy uncoupling by hand — a virtual impossibility with most HO scale couplers. Electrically controlled ramp sections allow for "hands off" uncoupling and the cars will couple together again anywhere on the track.

The Revell-Rapido system of model railroading utilizes realistic two rail track with non-oxidizing and self-cleaning black nickel rails, another performance advantage these N scale (Revell calls them "MicroTRAINS") has over even the larger size

*How's this for a railroad empire, built on a 30" by 60" board! This is the type of excitement you can expect with a Revell-Rapido system.*



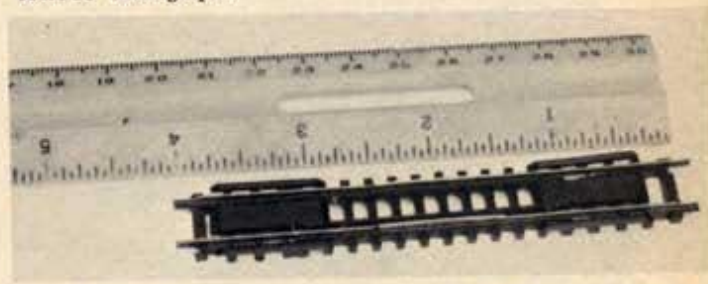
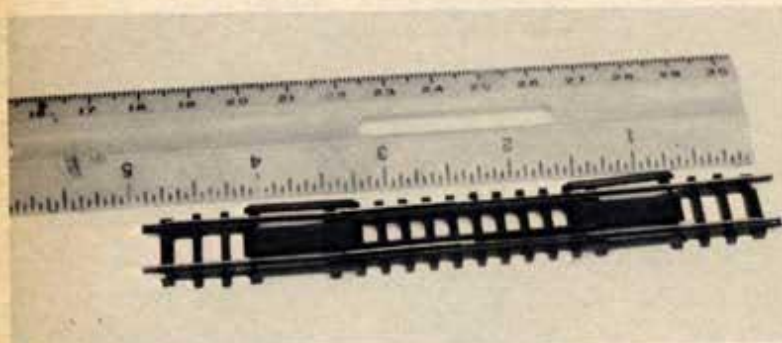


Track components of the Revell system of model railroading are well thought out for accurate fit, realism, and durability. Size is deceptive. These sections are in an 18" square area!

Revell offers three different radius curve sections. To assure alignment of complex track plans all curves are in multiples of  $1/24$  of a circle ( $15^\circ$ ).

The standard-length straight track section is 9" with half-straight and quarter-length straights also. The quarter-length straight is also sold with built-in gaps in rails to simplify wiring of more complex track plans.

These photos illustrate the unique Revell-Rapido telescoping straight track section. This can be a real time-saver where some complicated track plan leaves odd gaps.



model trains. The ties are extra thick plastic with realistic wood-grain detail. The ends of each rail are staggered so that about  $1/8$ " of one track section's rail will overlap the next. Result? More rigid track layouts with fewer derailments caused by severe angles or gaps where the track sections join together. The electrical current required is the standard 12 volts DC. Revell supplies an excellent control and transformer unit that allows ultra-slow starting with enough power to operate four trains plus accessories. Incidentally, no special terminal track section is needed to connect the wires to the rails. Revell has a unique spring clip that snaps under almost any part of the track.

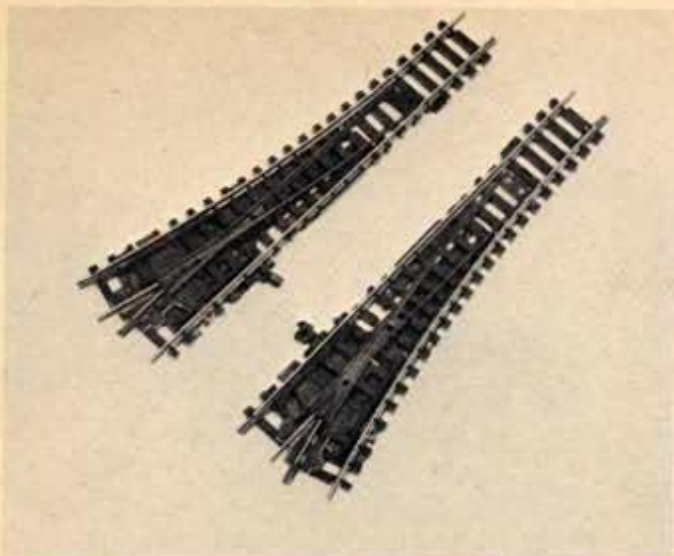
More complex model railroads require some pretty exact track sections so that everything will line up with no gaps or special track fitting necessary. The Revell-Rapido system starts with three different radius curved tracks that are available in the most economic segments for each radius. All curves are multiples of  $1/24$  ( $15^\circ$ ) of a circle so they will fit together accurately. The standard straight track section is 9" with half-strights ( $4\text{--}1/2$ " ), and quarter-strights ( $2\text{--}1/4$ " ) also available. The switches, the remote-control uncoupler track, and the track contact for signals are all  $4\text{--}1/2$ " sections to fit right into the "system." A most unusual section is a telescoping straight track that can be slid in or out from

4" to 5" to fill in those rare odd gaps in a layout. Right and left hand switches are sold as either manually controlled or remote-controlled with electric switch machines (which can be added later to the manual switches) operated by push buttons. Remote controlled double slip switches (a combination of an "X" crossing and two switches) will be available also. The switch machines are an unusual design that clips onto the track either at table level or under the ties for easy concealment. Its shape is such that it will never interfere with any adjacent trackage even if mounted in the table-top position.

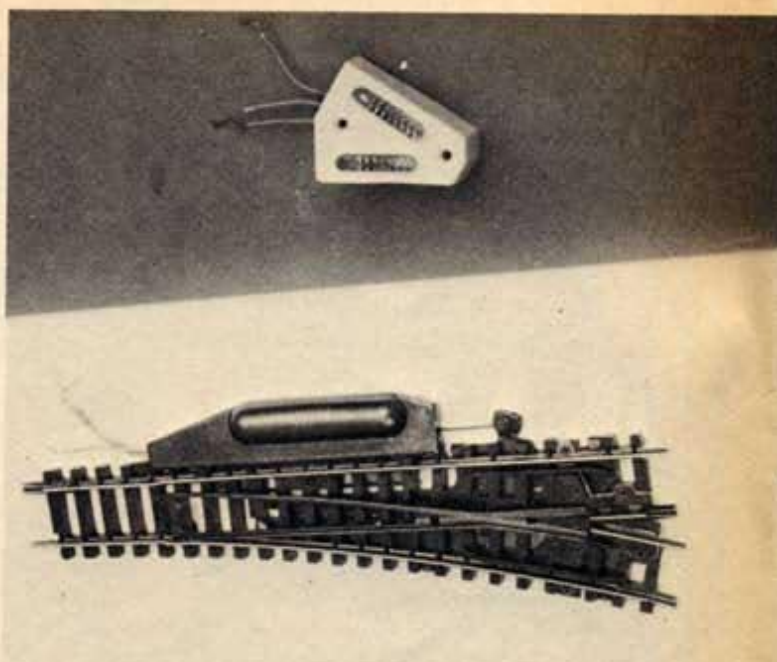
Wiring is kept to the barest minimum with the easy clip-on track terminals. The insulated gaps in the rails to allow two or more trains and reverse loops are "built" into special straight track sections. One has a single gap (to isolate one track section from the others) while another has both rails gapped (for two trains and/or reversing loops). Push buttons and power supply control switches are also a part of the system along with a terminal strip to organize the more complicated wiring.

All of these elements of the Revell-Rapido miniature railroad system combine to give super-realistic operation and detail in the smallest of the model railroad scales. These N gauge MicroTRAINS are only tiny in appearance . . . performance and detail are almost life-size.

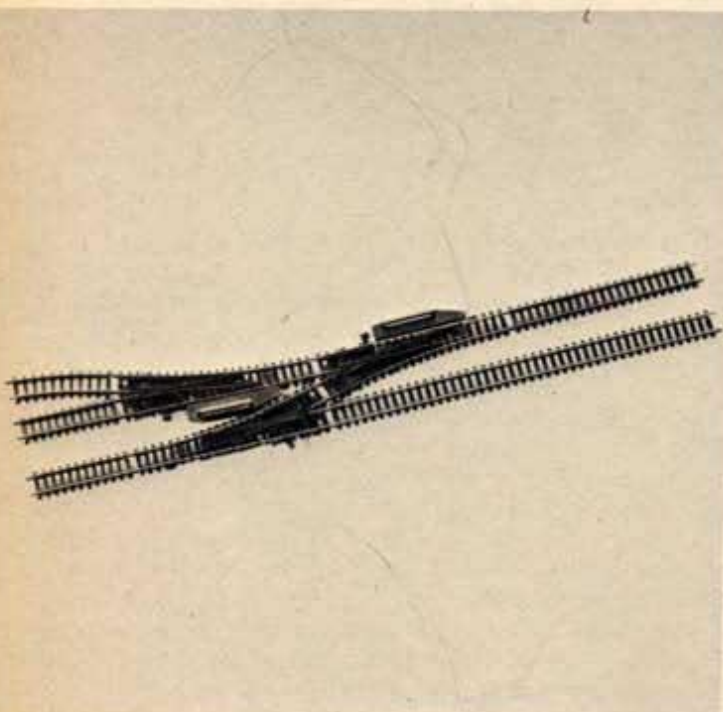




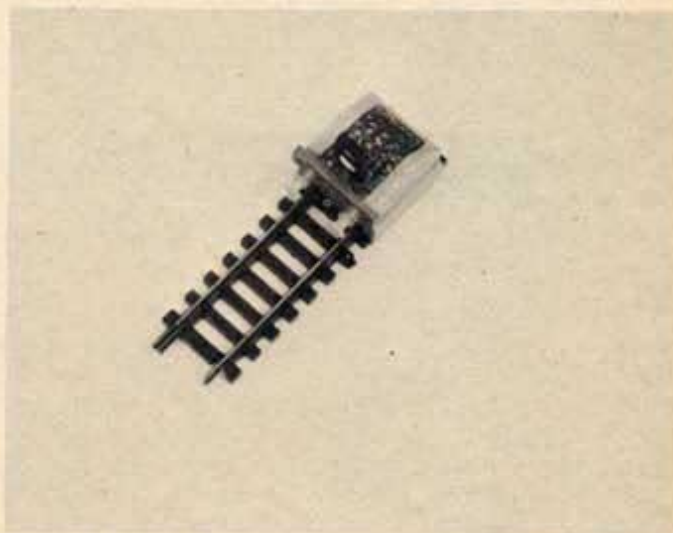
*Right and left hand switches have good detail, can be converted to electrically operated remote control at any time.*



*The Revell remote-controlled switches can be operated with the optional push button unit shown, that lights up to indicate which route is set.*

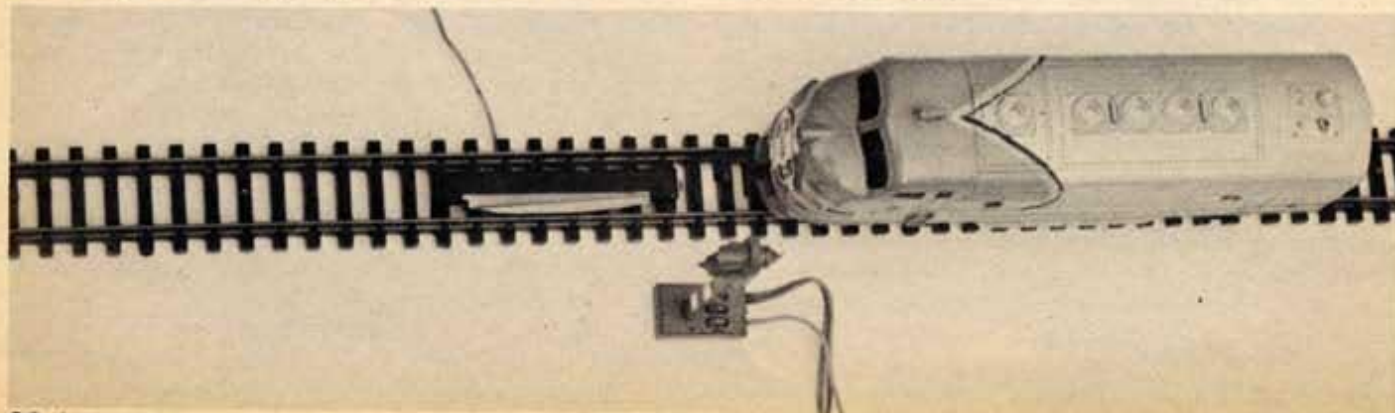


*This group of Revell components is a simple indication of how the various track sections and switches combine. The ends of each section overlap the next for extra rigidity. No tools are needed.*

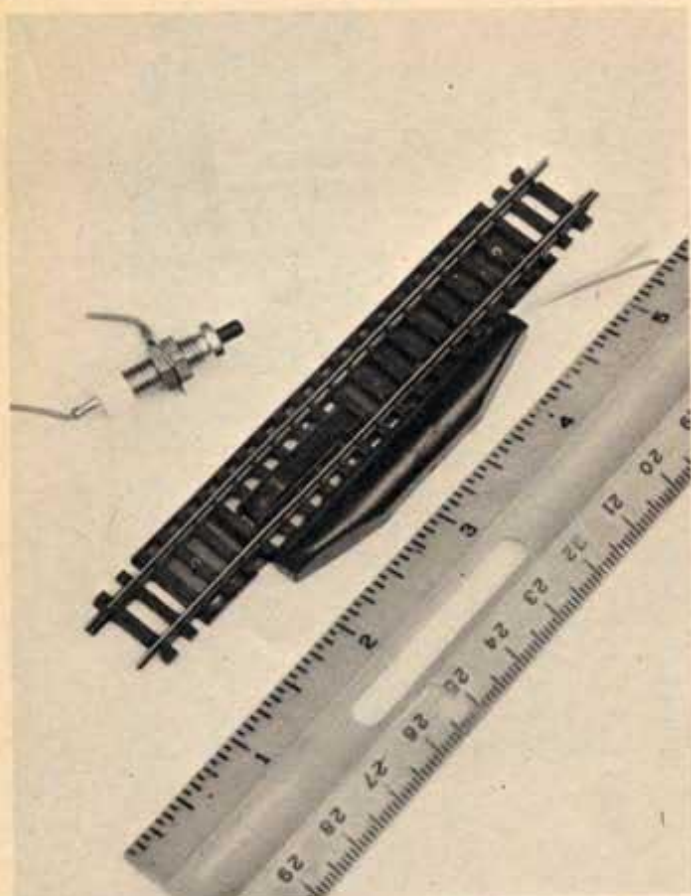


*An end-of-line track bumper is included as an integral part of Revell track system. All sections slide together.*

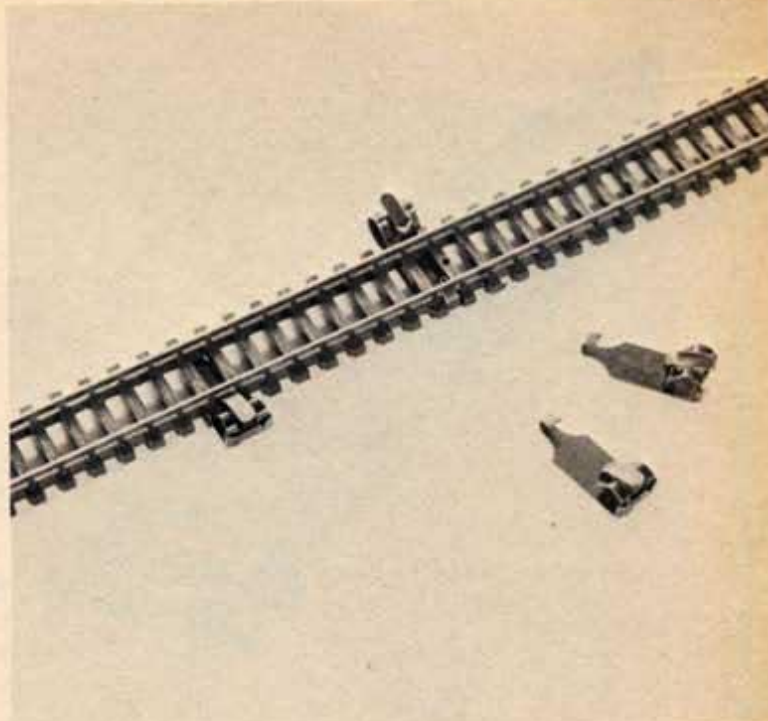
*Revell offers a track contact that can be used to actuate their block signal light or other electrical devices.*



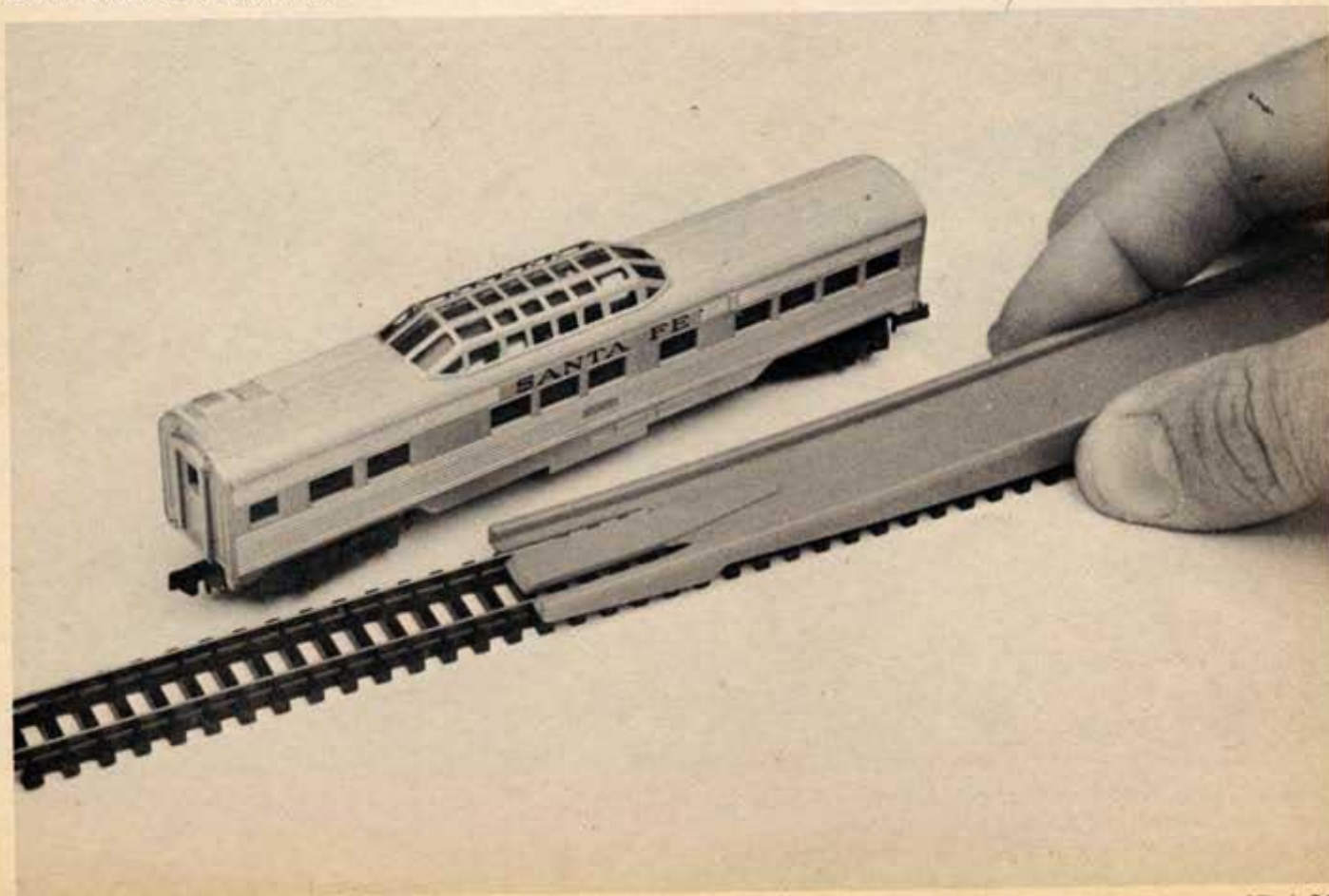




*This electrically operated uncoupling ramp allows "hands-off" uncoupling by remote control. Cars will couple anywhere.*

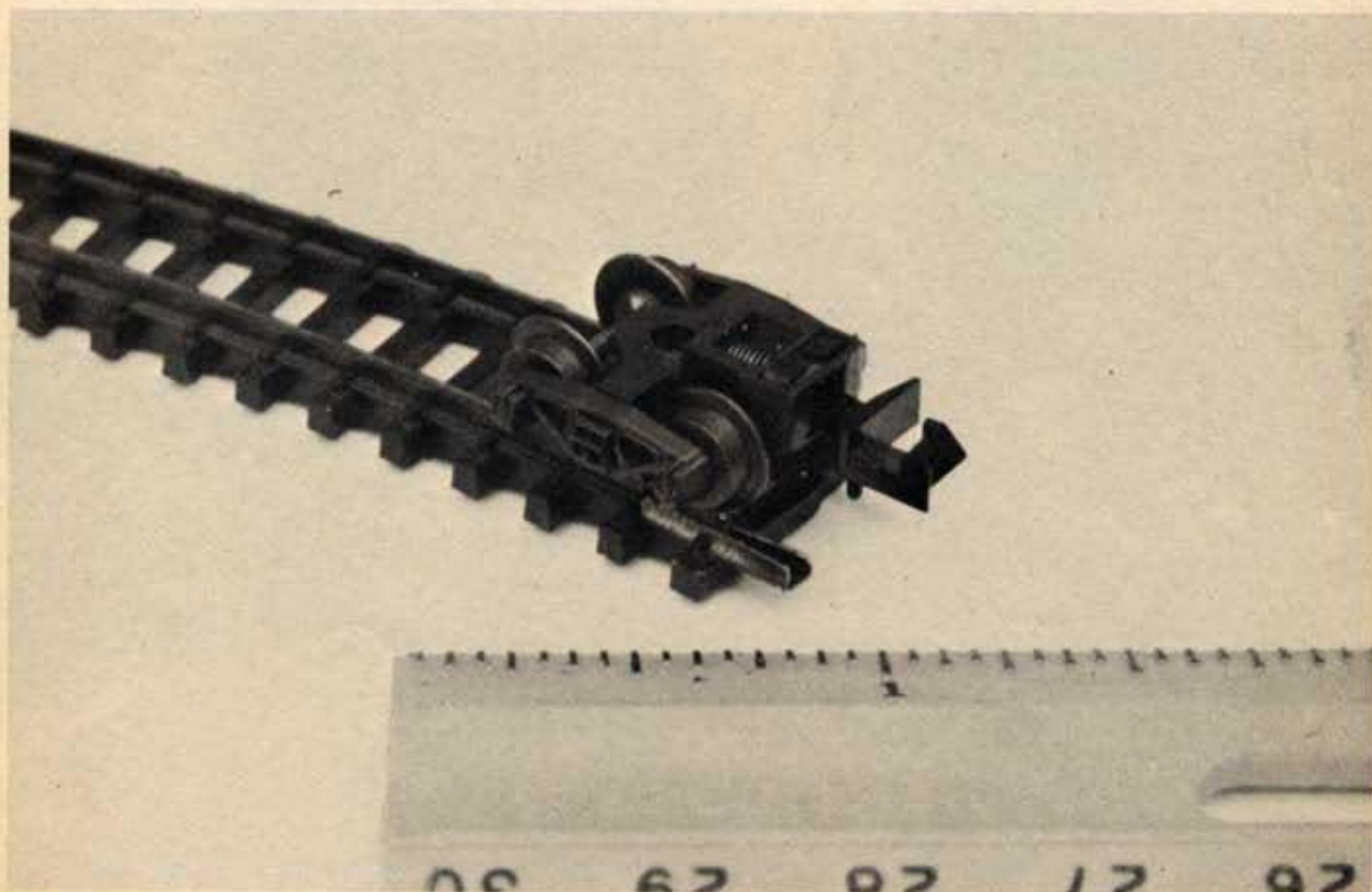
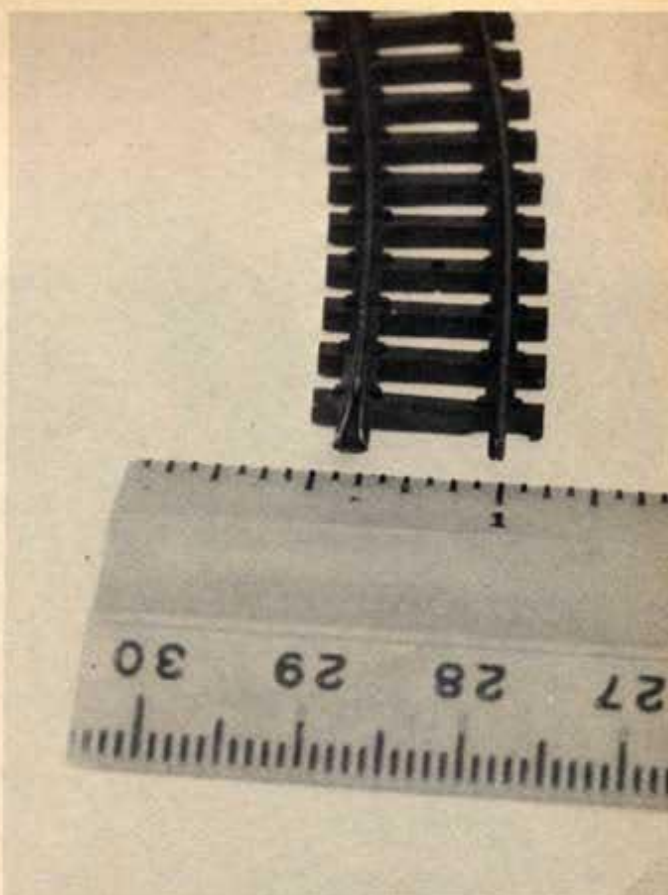
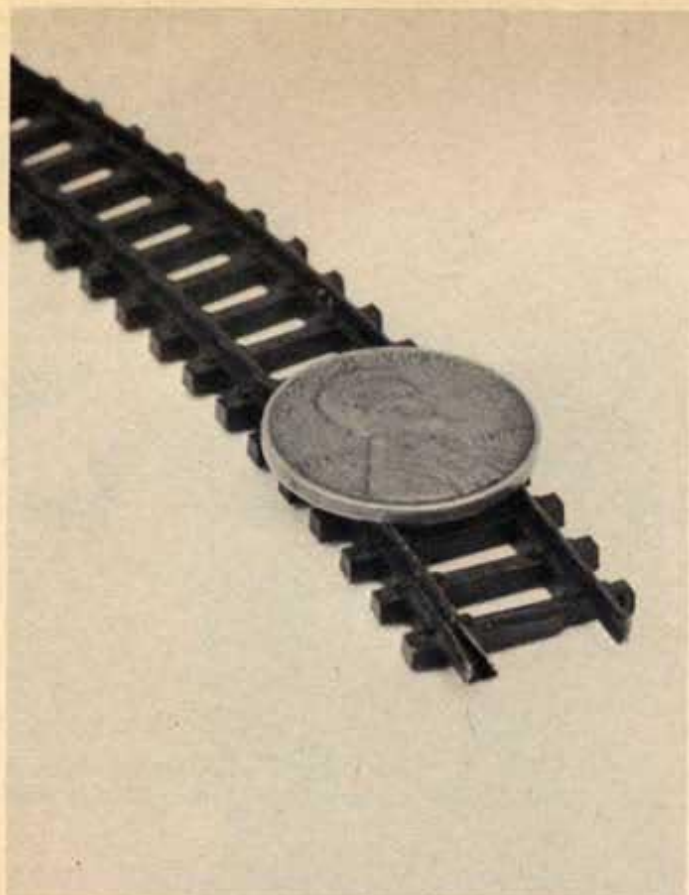


*Wiring is made simple with these clip-on terminals that allow the power supply to be connected at almost any part of the track.*



*The Revell-Rapido train sets include this rerailer that makes placing cars and locomotives on the track a one-hand operation anywhere on the layout.*





*Size, realism, and durability of the Revell-Rapido track is evident. The rail shape allows it to be self-cleaning. Note how ends of track will overlap for straight and constant alignment.*



# A FERRARI IS FOR RACING! RACINRAC

ROAD  
TEST







A Ferrari is for going fast. And going fast is what racing is all about! If you dig going fast and Ferraris, you'll do a real double-take when you eyeball Testor's latest 1/24 scale "go car", the Ferrari 330 P/4.

I've had a passion for the bellowing, sleek red cars from Italy since I was old enough to realize my Schwinn wasn't the latest thing available for hot-lapping around my block. From that time on it has been one long, frustrating love affair with a multi-thousand dollar car I could never afford.

But when slotting came along — ah-ha! Man, I started accumulating Ferraris! 1/32 scale Ferraris, 1/24 scale Ferraris, HO Ferraris, my shelves abound with them. At last I found Ferraris I could afford!

It's quite natural then, you see, that I did a backflip over Testor's newest. The real 330P/4 is really a brutal, racing machine, not for the faint hearted, and it's just plain mopping up in the hairy-chested arena of international motor racing.

Testor has captured the aura of power and speed that surrounds the real Ferrari, with this handsome replica of the 330P/4. It's a 1/24 scale ready to race, selling for \$12.98.

A general description of the chassis will impress you. The chassis is a sidewinder setup, with a frame of formed aluminum, which is light and immensely strong, due to deep-channel sides. A drop pickup of formed wire terminates in a 1/8" shank Teflon pick-up shoe. The frame offers six different locating holes for the pivot pins of this drop arm, which allows you to tune the chassis to any track. Some drivers like the guide shank about 1/8" in front of the front axle, while some like it extended quite a bit forward. You can put it right where you want it with this setup.

Both axles are stainless steel, 5-40 threaded at the rear, and capped with unusual machined-aluminum wheels. The front wheels are independent rotating, on a smooth axle, secured laterally with an inner clip and a 3-prong knockoff nut on the outside. Front wheels are narrow, with ribbed, hard rubber. The rear wheels are not wide by usual standards, but are very effective, being shod with the latest "dead rubber" closed-cell spongies. The rear wheels are secured with jam-nuts on the inside and 3-prong knockoffs on the outside. The rear axle rides in excellent quality ball bearings.

Testor's Turbo Mk III is a powerful motor, utilizing a die-cast aluminum end bell with arm-type brushes, a bit of rarity in a modern can, but very desirable, offering excellent cooling. The armature is dynamically balanced, and spins between extra-strength ceramic magnets. Bronze bearings are used on both ends, and the case disassembles easily, without fear of broken

A Ferrari by any other name is still a Ferrari! Here, this high-speed brute muscles through a corner in true Ferrari fashion. You can almost hear the shrill shriek of that Italian mill!

tabs, thanks to screw mountings. The motor is fully adjustable in the chassis, in case you want to change gear ratios. The ratio incidentally, is a surprising 4.8:1 with a 10 tooth pinion, and a 48 tooth spur, both of which are brass. At first glance this seemed a terribly low gear ratio, but after trying it on the track, I decided they know what they are doing.

This motor pumps out a lot of power! It accelerates this Ferrari out of the corners in true dragster fashion, and that low ratio which propels it forward in such a violent manner also helps to slow it down going into a corner, so the brakes are excellent.

The clear plastic shell offers good detailing and of course, the paint job is impeccable, being a deep Ferrari red. There's a full vacuum-formed interior too, with painted driver.

This big Ferrari roadster has the spoilers and vents that you'd expect to find on a Ferrari. It looks truly hairy!

The car is a superb handler, and this, coupled with expressive acceleration and braking, makes it a car to be reckoned with on nearly any track.

In my opinion, Testor's Ferrari 330P/4 is their best effort yet. It's an extremely good value for \$12.98.

#### SPECS AT A GLANCE

**Car:** Testor Ferrari 330P/4

**Scale:** 1/24, ready to race

**Price:** \$12.98

**Wheelbase:** 94" (1/24 scale)

**Tread:** 60"/57", front/rear (1/24 scale)

**Type chassis:** Formed aluminum, fixed wheelbase, sidewinder motor, with adjustable, formed-wire drop arm.

**Type of wheels:** Machined aluminum, narrow in front, medium width in the rear, 5-40 threaded. Front wheels rotate independently. All wheels capped with knockoffs.

**Motor:** 3 pole, dynamically balanced armature.

**Ceramic magnets.** End bell is die-cast aluminum, screw-mounted to motor case. All motor bearings are bronze oilites. Arm-type brush units.

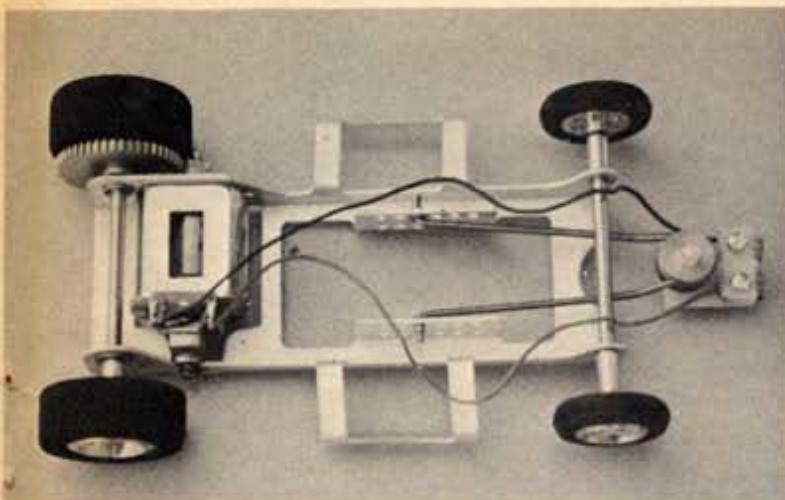
**Gear ratio:** 4.8:1 (10 tooth pinion, 48 tooth spur) both brass.

**Wheel bearings:** Ball bearings at the rear, independent rotating front wheels, on stainless steel axle.

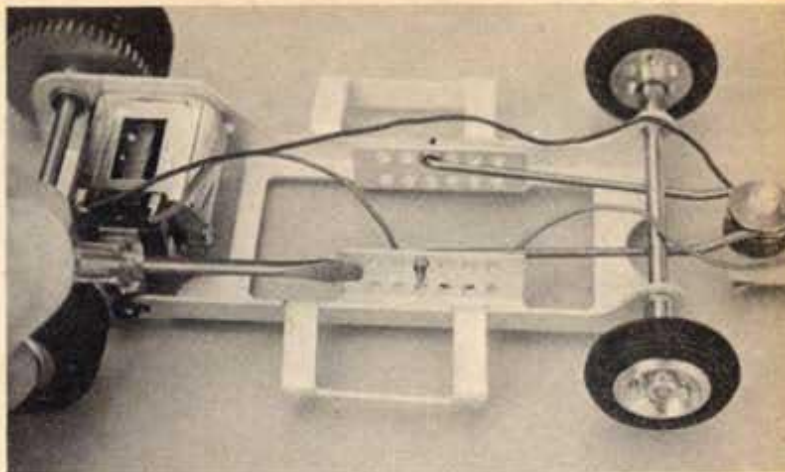
**Racing weight:** 4 oz.

**Type of body:** Vacuum-formed plastic, full driver compartment, pre-painted and detailed.

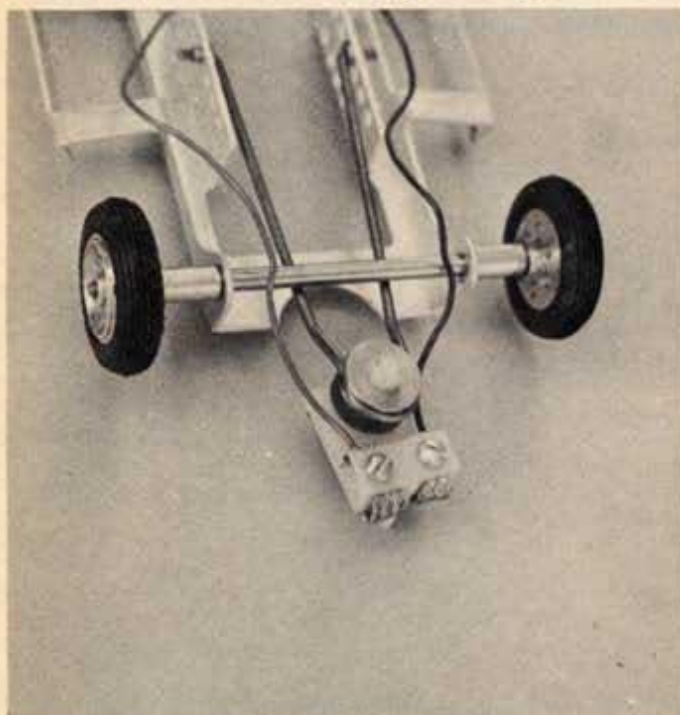




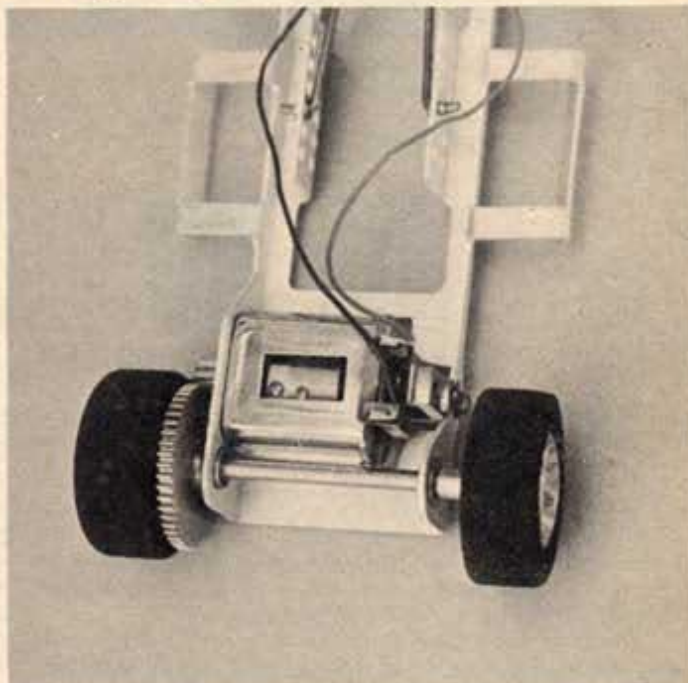
The chassis is a rugged lightweight, yet fully adjustable in every department. It's a very good design.



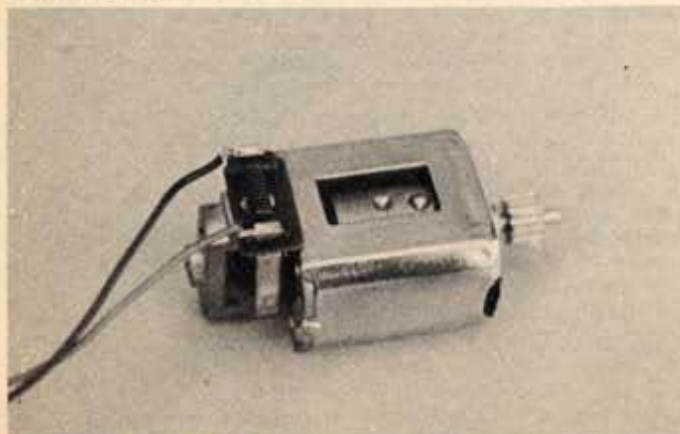
Count 'em — six holes for the formed wire drop arm, so you can place that guide shoe as far in front of the axle as you wish.



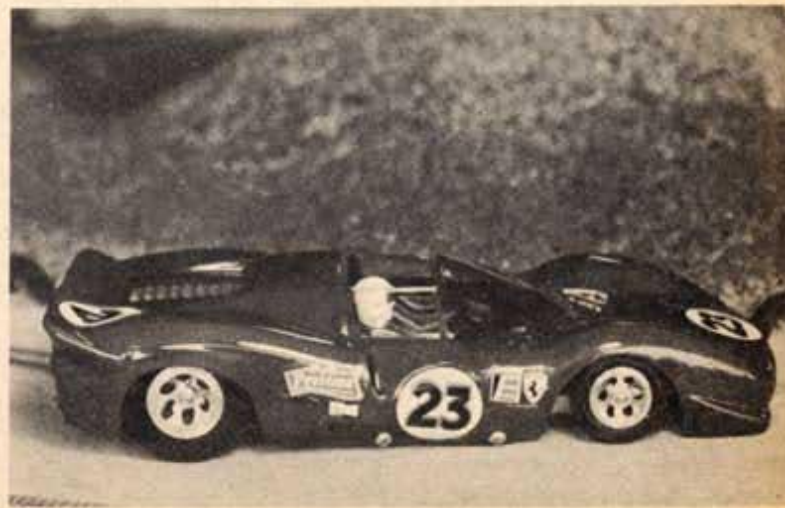
The guide shoe has a 1/8" shank, capped with a weighted collar. Note the neat method of capturing the braided pickup brushes and motor wires.



The motor drives through this 10 tooth pinion, into a 48 tooth spur. That axle rides in ball bearings too. Rear tires are closed-cell rubber. All wheels are secured with 3-prong knockoffs.

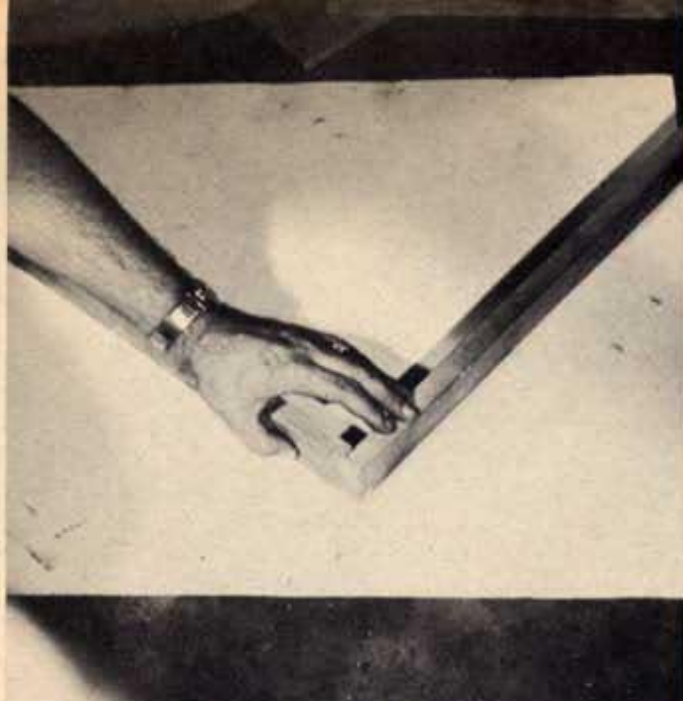


Here's the muscle that makes the P-4 hustle! That's a cast aluminum end bell, which mounts to the case with screws. No more broken tabs! Armature is fully balanced too, and the magnets are extra strength ceramic goodies.

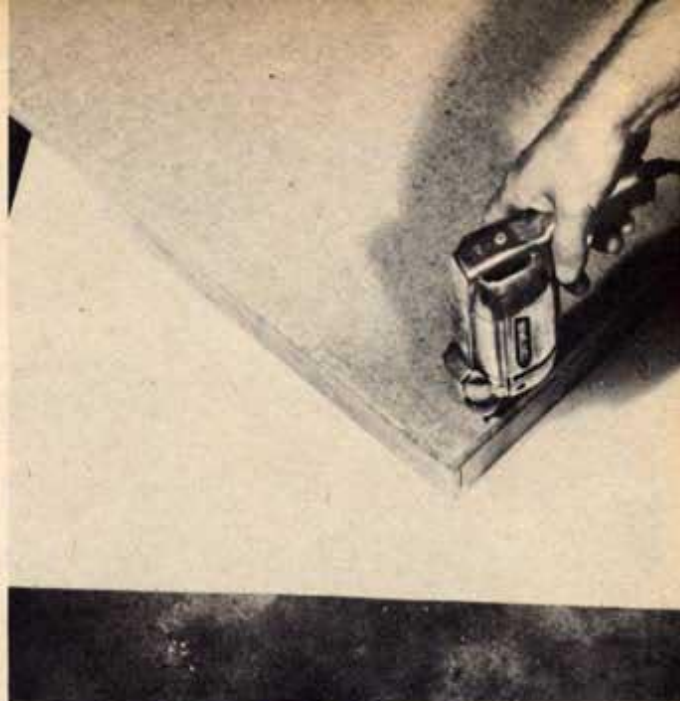


The 1/24 scale version looks every inch a race car! It will make a worthy addition to your stable.





Cut two 1" x 2" boards into 8 foot pieces and fit to edges of 4' x 8' particle board panel. The end 1" x 2" boards can be cut to fit as shown.



Use a #2 x 1" pilot bit in a hand drill to drill a starter hole for #2 x 1" wood screw to attach the table top.

## THE HO RALLY ROAD **Part II**

This month's installment will actually get you on the road!

This month we'll take you far enough along in the story of the MCS HO Rally Road so that you can begin some of that "serious" racing you all want so badly.

You'll note that the track plan is a similar, but simplified, version of the track plans used in the Aurora-Ford national championship events — learn this track well and you'll have driving experience for just anything in HO competition!

We promised you some details on how to route your own slots so that the plastic track sections would not even be needed. Sorry about that, but . . . we did a little more thorough checking into the hand-routed HO track situation, and we have a recommendation for you; don't try it unless you (or a dad or uncle) are an expert carpenter! The slot should only be 1/16" wide with ultra-smooth edges and a braid type of pickup such as the Cox Stik-Trak, or similar. To fit this braid so it is just above the track surface requires yet another precision-routed cut beside each slot. The aluminum or copper pickup tapes just won't work properly unless you change all of your HO cars from the metal strip style pickup shoes to a brush or stranded wire type of pickup shoe. The cost of a routed HO track is going to be high also, with the cost of the braid, plus costs of renting a router, plus the \$5-and-up costs of router bits (you can plan on breaking at least 2 of the 1/16" size), plus a heck of a lot of skill, experience and patience, to say nothing of time.

Still not discouraged? The cost of a routed-and-braided HO track will run about 65¢ per a 2-lane, 9" long section of track. You can buy HO track sections for between 44¢ and 90¢ per 2-lane, 9" long section, even including curves! The sectional track can be taken up and reused easily, time and time again. 1/32 scale tracks are larger and track is more costly, so that a hand-routed track is a bit

By the MCS Staff

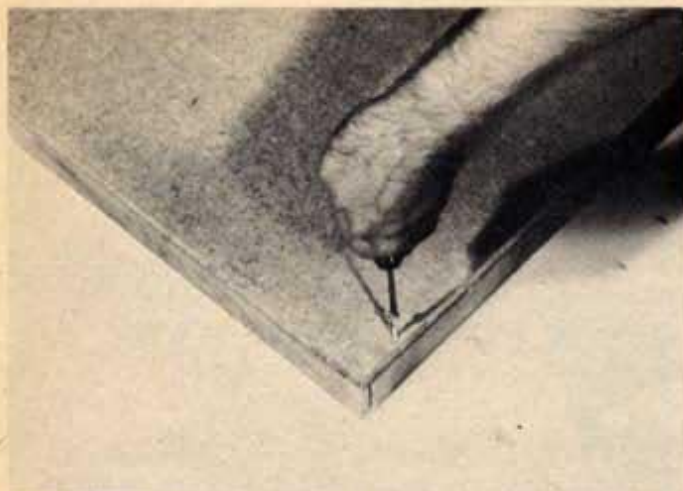
more suitable for these scales (although we are even beginning to question routing here). You can route your HO track if you wish; and several people have done so, but enlist the help of a skilled carpenter. We wish you all kinds of luck!

The use of cork model railroad roadbed as skid aprons will allow you to race and "drift" the tail of the car out in the corners just like the larger scales. The photos show you how, but to repeat, coat the area on the outside of each curve and about 3" or 4" of the straight on each side of the curve, with a 1-1/2" wide strip of contact cement. Also coat just the vertical edge of the track (don't get it on the track surface). Then coat the widest side of the cork roadbed with contact cement. Allow both coats to dry for five minutes or so, then carefully position the roadbed over the edge of the track and press into place. Move the roadbed just a bit so it exactly lines up with the level of the track with no gap or ridge. Be sure you have the roadbed in position before pressing it down as the contact cement is an "instant" bond, and you won't be able to move it more than about 1/32".

The wiring diagram (figure one) includes all of the electrical control devices you would want on a layout of any scale. This is an example of how model car racing has something for everyone. Some of us are most interested in super-detailed cars, others in super-fast cars, while still others like track layout building or designing. Others yet, have an interest in electronics. The wiring diagram will tell you all you need to know about which wire goes where. The only tricky part is in wiring the controller plugs so as to not short-circuit the entire system.

Before you start wiring, examine the phone plugs (incidentally, all of the plugs, switches, and #18 gauge wires will be available at a good hi-fi shop). There are three different lengths of terminals on the plug, and each of these is connected to a





The pilot bit cuts a hole that is just a bit smaller than the screw and not quite as deep so threading in the screw is much easier and wood won't split.

portion of the three bands of the plug itself so they will, in turn, contact one of the positions of the socket. One good look at a set of these plugs and sockets should make this quite clear to you. Remember that the wire marked "A" is connected to the longest terminal on the plug, with wire "C" to the middle-length terminal of the plug, and wire "B" to the shortest terminal of the plug.

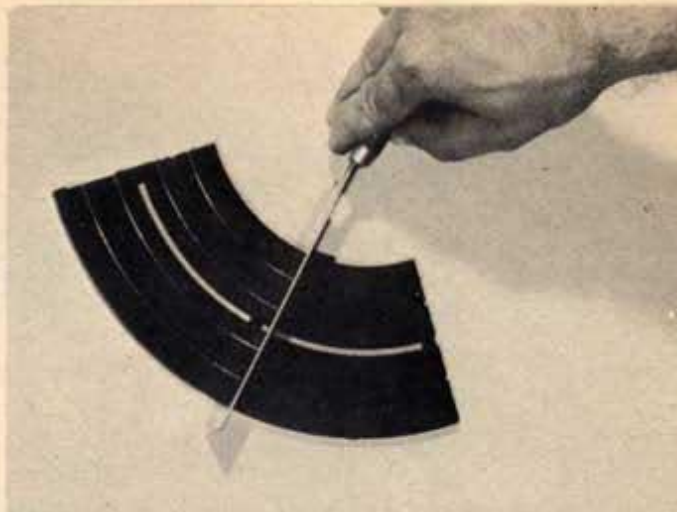
When wiring in the controllers, connect the "brake" wire to "A", then briefly touch one other wire to "B", and the last to "C". If a spark occurs, switch the "B" and "C" wires, leaving the brake connection entirely, or just follow the wiring diagram furnished with the set and forget the plug-in connections. They'll all work fine, though, if you follow the wiring diagram figure one exactly and connect the plugs as outlined here.

The power supply can simply be the power pack supplied with your set. If you must have even more speed and power, you can pick up a pair of used automobile batteries for \$2 to \$5 apiece, and wire them in as a power supply. Here, be sure to include the 5 amp circuit breaker so that the full charge of the batteries is not ever allowed to the track. There's enough power there to melt even brass, so you can imagine what it'll do to wood and plastic — boom! You must keep the batteries in a well-ventilated room because they give off a highly explosive gas when charging — boom, again!

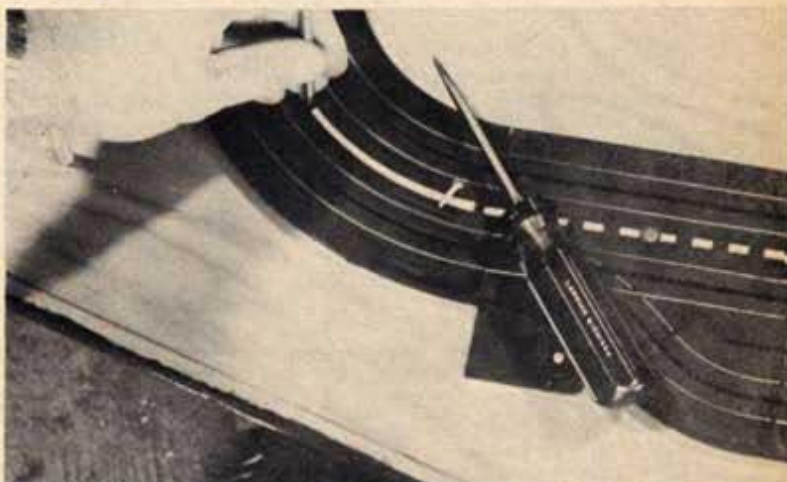
If you go the battery route, the original set power makes an excellent charger. You are really better off to use two power packs, one for each lane if you want more power. The extra pack can be bought used for only a couple dollars or even brand new at less than \$6, and then you won't have to contend with the fire and explosion dangers of the automobile batteries. We recommend two power packs, not the batteries.

We promised you that the whole story of the MCS HO Rally Road would only take up three parts. Well, we have received enough letters wanting data on pits, lights and lap counters that we have decided to add a fourth part. A concealed lap counter, lighted pits, and track that will actually allow you to pull off course for a "pit stop" will all be there, plus details on some of the most realistic brick (!) pit building you ever saw!

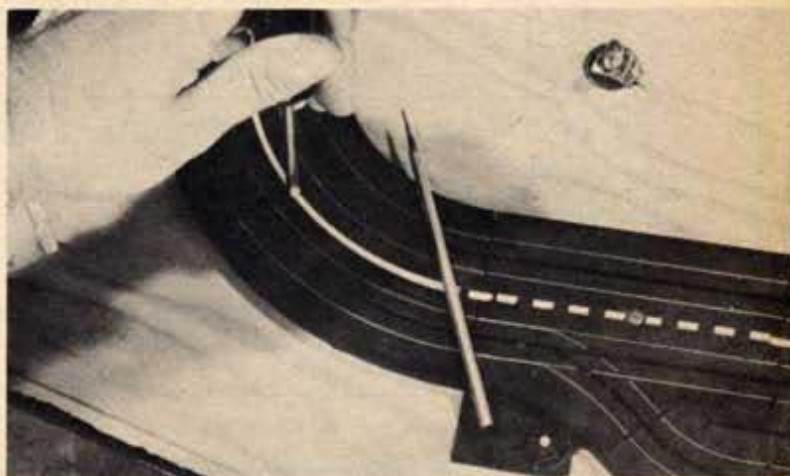
You'll have plenty of driving to do between now and then. The MCS Rally Road track is ready for you to race on now. Plug in your controller and be off.



If you follow the plan presented using the 6" ess-bend, you'll have to custom-fit it by cutting a 6" curve in half.

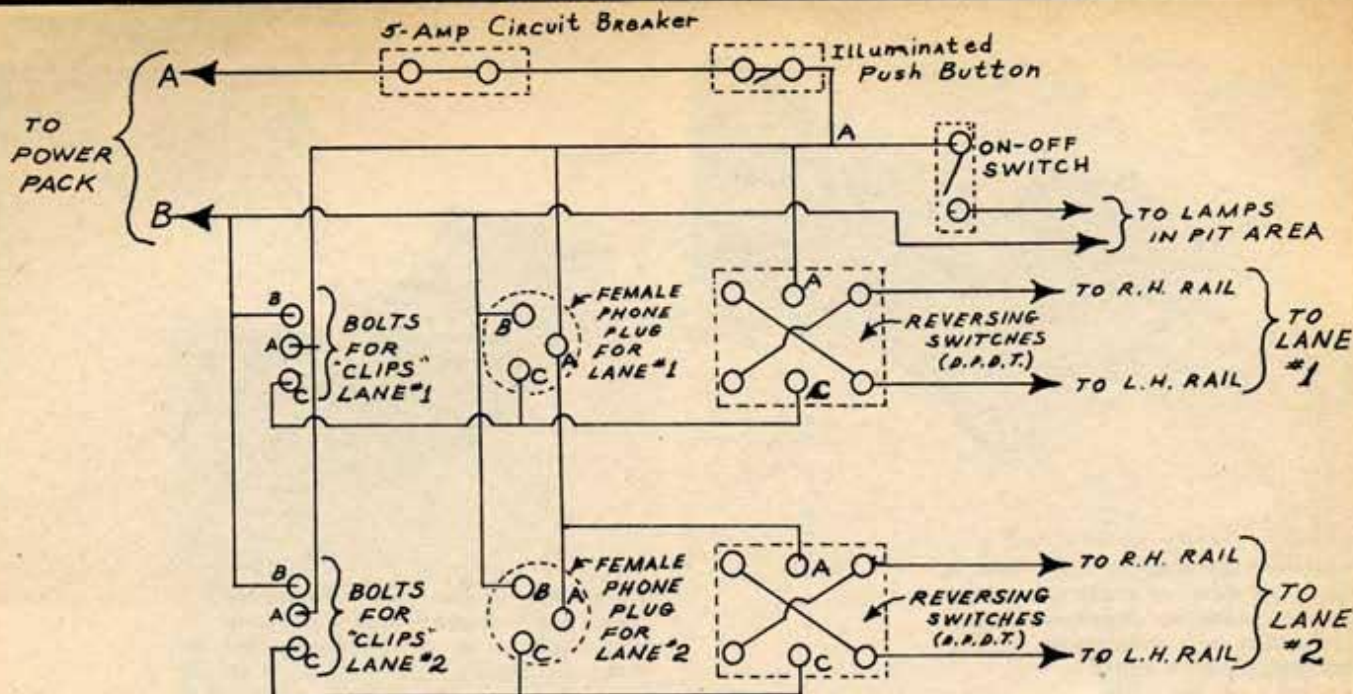


Position all of the track sections and temporarily connect power like a portable track to see that the cars will all operate. To fasten the track to the table punch a small pilot hole with a pick.



Use #4 x 1/2" wood screws to hold down each track section. The small pilot hole should make starting the screw easy. On some track sections you may need to drill a hole in the track and taper (countersink) its edges.

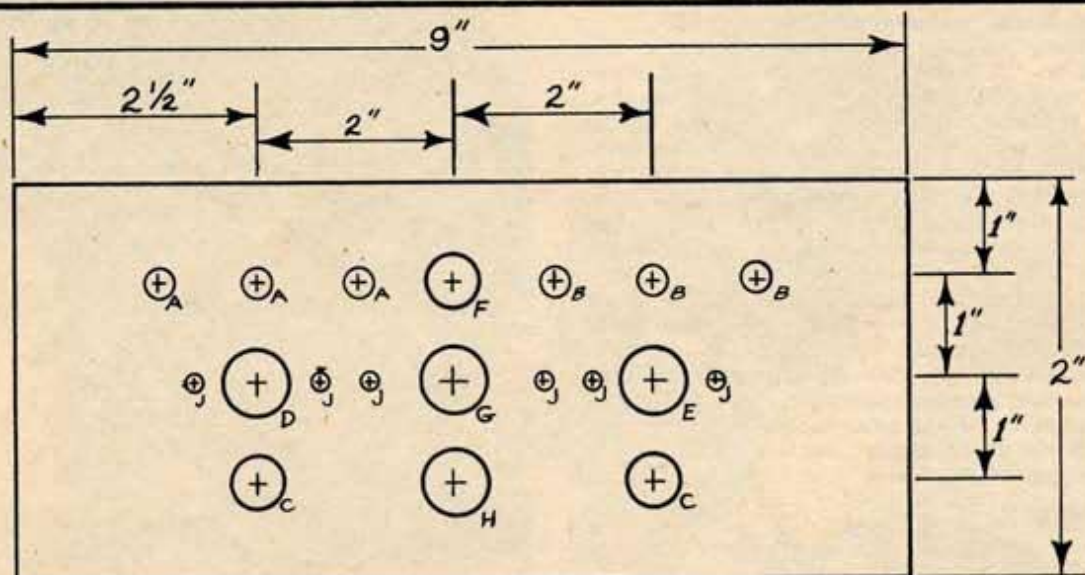




### WIRING DIAGRAM

You can simplify the wiring of this HO course by using only the controllers and wiring diagram furnished with your set. For full performance, and to allow the use of plug-in or clip-on controllers, as

well as reversing switches, you must follow this diagram exactly. The fine lines are the wires and the dotted lines indicate plugs or switches. All connections must be soldered in place.



### CONTROL PANEL LAYOUT (NOT TO SCALE)

This control panel will organize all of the control and wiring for the HO track (or for any other, for that matter) into a compact and well-planned unit.

An aluminum cookie sheet about 1/32" thick is used for the panel. Crosses indicate the centers of each hole.

Letter		Size
A	rubber insulating grommet for 1/8" bolts to attach clip-on type controllers for lane 1.	1/4"
B	same as "B" but for lane 2	1/4"
C	female phone plugs (phone jacks) for lanes 1 and 2	3/8"
D	Reversing switch (DPDT) for lane 1 only	1/2"
E	Reversing switch (DPDT) for lane 2 only	1/2"

Letter		Size
F	On-off switch (SPST) for lights in pit area and/or for lap counter	3/8"
G	5-Amp circuit breaker switch (also serves as a master on-off switch for all controls)	1/2"
H	lighted button to indicate when track is on.	1/2"
J	mounting holes for the reversing switches and the circuit breaker switch (to be drilled to fit each switch).	1/8"

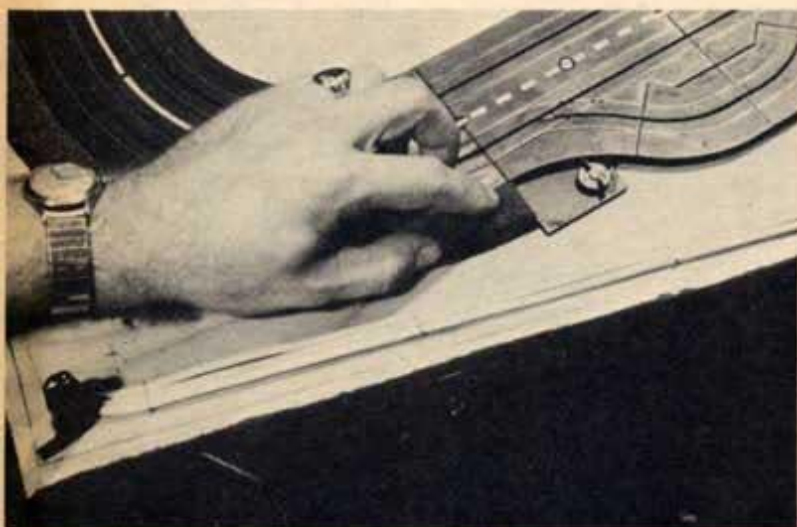




Cork model railroad roadbed comes in two sections with one side tapered and the other straight. Coat the wide side with contact cement.



Coat the outside edge of the curves with contact cement. Be careful to keep it off the top of the track. It's OK on the edges.



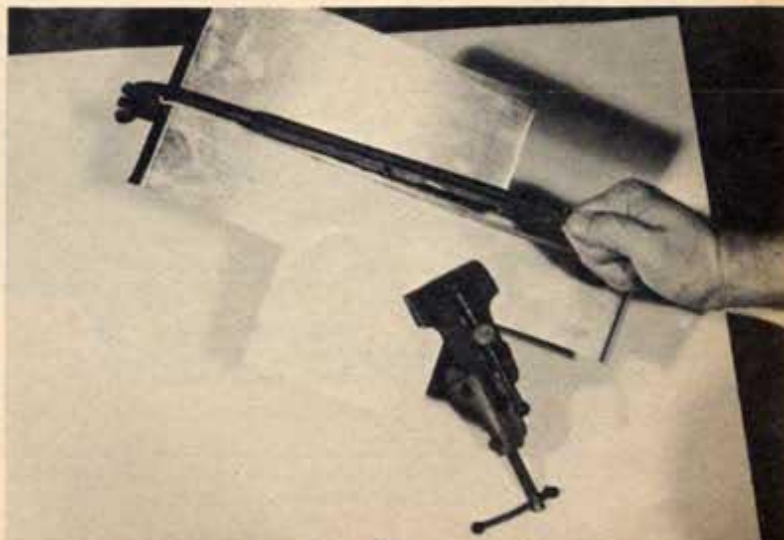
Allow the contact cement to dry for 10 minutes, then press the model railroad roadbed down flush with edges of the track.



The power supply furnished with most of the HO racing sets is ample for this track. However, for more power, two 12 volt car batteries can be wired to provide up to 24 volts with a circuit breaker switch. Text provides info and wiring diagram.



An aluminum cookie sheet such as this one by Mirro, costs little, is easy to cut into control panels, chassis, etc. Mark off a 4" x 9" area of the aluminum cookie sheet for the control panel face. Drawing figure 2 shows its shape.

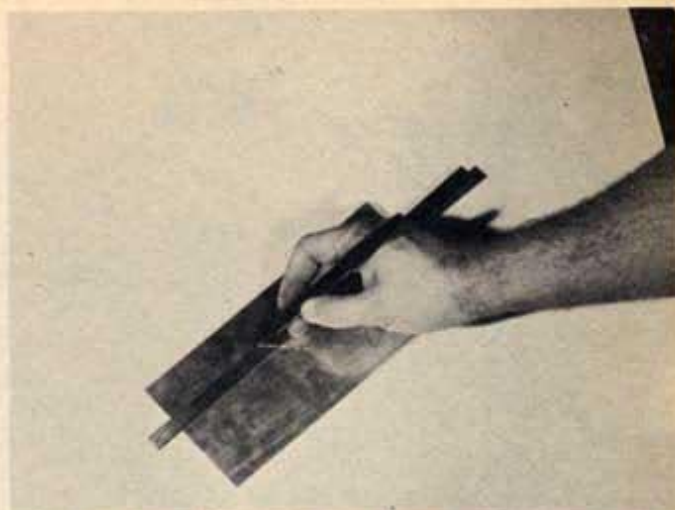


Grip aluminum in a vise and use a hacksaw to cut along the lines you marked. Hold the saw at an angle for straight cut.

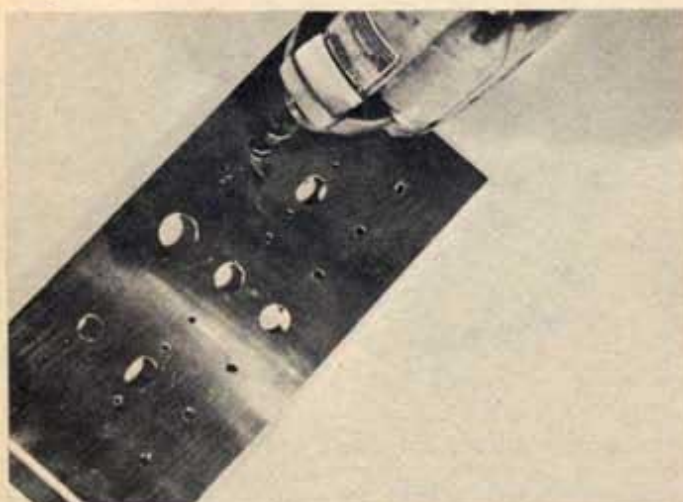




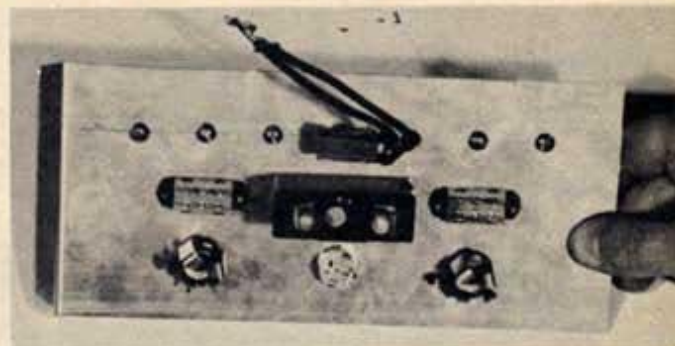
The 4" x 9" panel plus all of these electrical components will make up the nerve center of our raceway.



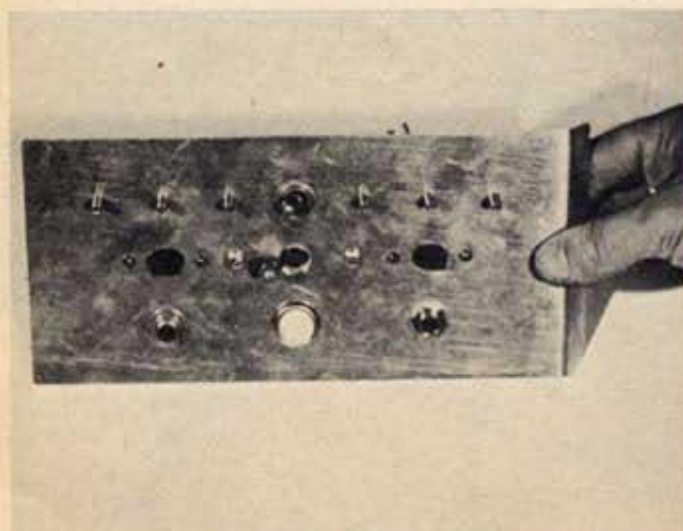
Mark off the position of the centers of all of the holes indicated in figure 2, on the face of the panel, then prick each one to provide a starter point for drill.



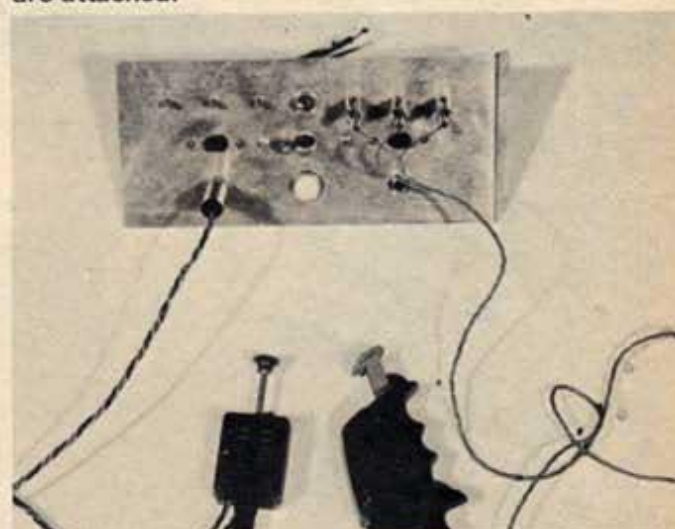
An electric hand drill can be used to drill holes up to 3/8" in diameter. Larger holes will have to be filed out with a round file or wood rasp. Smooth all edges.



Bolt in all of the switches, light and controller bolts. Rear of panel should look like this before wires are attached.



Front of control panel has a custom look. Switches can be labeled with dry transfer lettering or decals.



Connect both controller plugs and sockets to the letters indicated on wiring diagram, figure one. Either a 60-ohm Tower Stat or an 85 ohm Atlas controller is best. Here, the Atlas unit is clipped to the power panel, while the Tower-Stat has plug. Be sure to install the small rubber insulating grommets in each of the bolt holes, for the clip-on controller connections, before the bolts are fitted.



## By Don Emmons

Dune buggies, hill climbers, off-the-road vehicle, or just fun machines, these little bugs are becoming very popular in California. Pick up a wrecked VW and strip off the wasted body. Then cut a section from the chassis, just as we have done on the model. In fact, we will build the model exactly like the real one.

I am including some photos of real dune buggies to give you some ideas for your model. I built mine with head and taillights and used as many parts from the IMC VW kit as possible, to



# SAND STORMER!

Our man Emmons (California's answer to Lawrence of Arabia) shows you how to build a wild Dune Buggy, from IMC's "Beetle" kit.

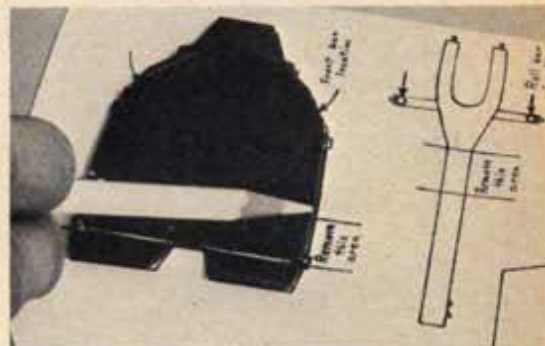
keep the cost down. The big tires are from one of their racing kits (IMC Lotus). The roll bar and battery came from my left over parts box.

The purpose of the "antenna" wire is to tell the fella over the hill that you are coming up. The flag is a safety feature.

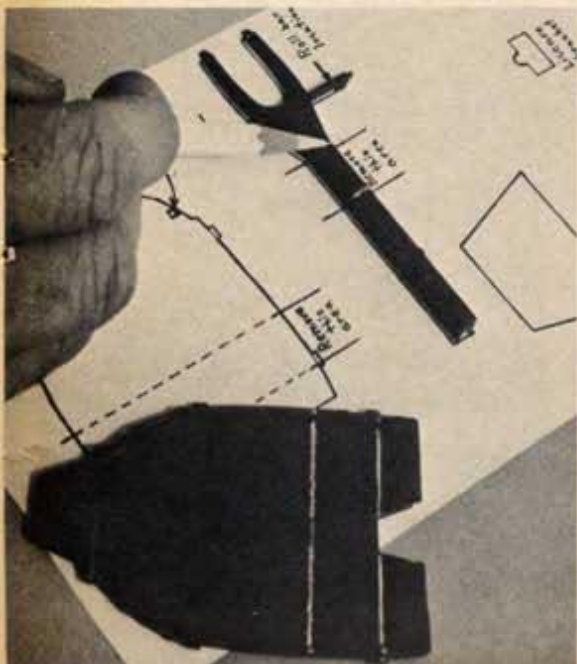
Your dune buggy can be built various ways. I know you will have a ball building one of these wild bombs.



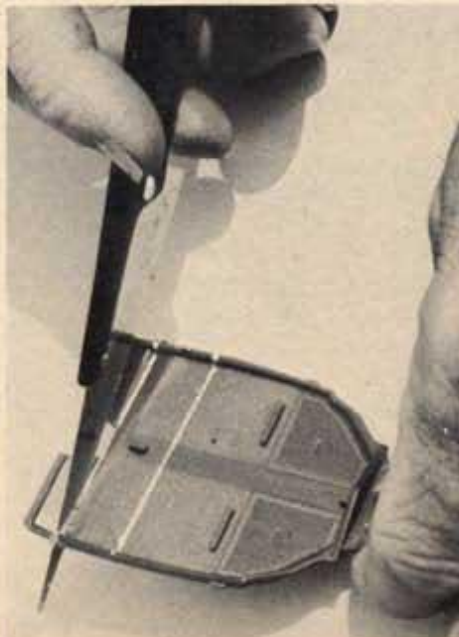
*Cut off the rear portion of the chassis, even with the top edge of the floor section.*



*Place the chassis on the pattern and mark off the area that is to be cut away.*



*Mark off the tunnel section to remove same amount as chassis.*

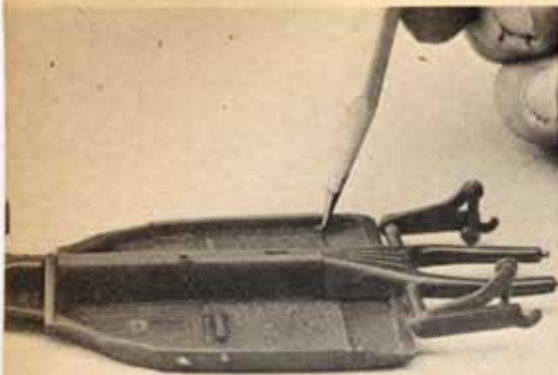


*Use razor saw to cut across the chassis. Make sure that both cuts are straight.*

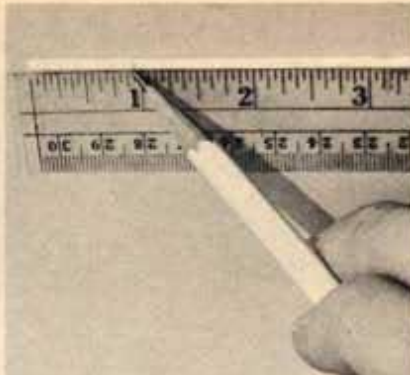


*Check to see if the roll bar is bent properly, so it will fit on the torsion bar unit. The roll bar is from an MPC '67 GTO kit.*

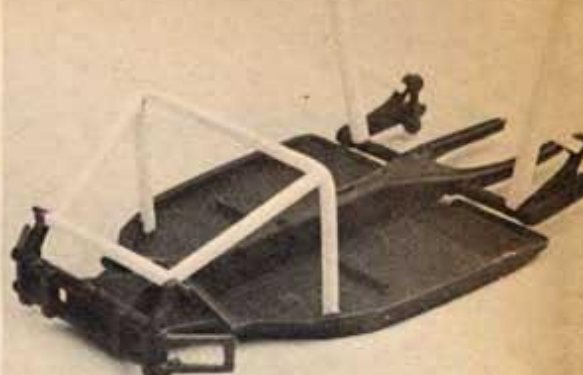




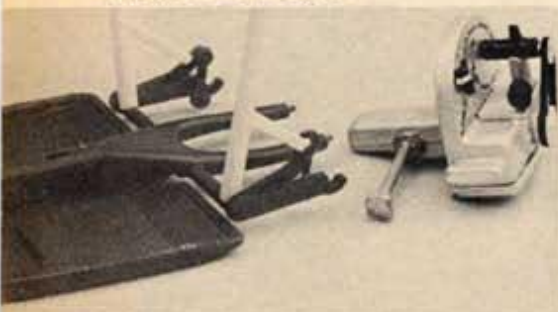
*Chassis has started to take shape now with the floor pan and tunnel glued back into place. This in turn was glued to the floor.*



*Mark off 15/16 inch on a piece of 1/8-inch square plastic. Strip was cut from 1/8-inch styrene sheet. This is a good duplicate of small square tubing used on real cars.*



*Hold piece in hot water before making bends on the front bar. Chassis frame work is about finished here.*



*Engine assembly has been completed and is waiting for the chassis to be painted. Note the brace that is glued from the roll bar to the shock mounting arm.*



*Rear wheels are made by using wide rim and gluing this to the stock VW wheel. The tire is from an IMC Indy Lotus kit.*



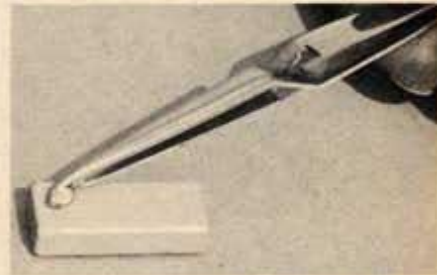
*Seat belts were made up using sewing supplies, namely seam binding tape. Paint ends with chrome paint to simulate buckle..*



*Gas tank can be made up from a small piece of wood (hardwood is best). It measures 1/4 x 1/2 inch and should be cut off at 1-1/8 inches long.*



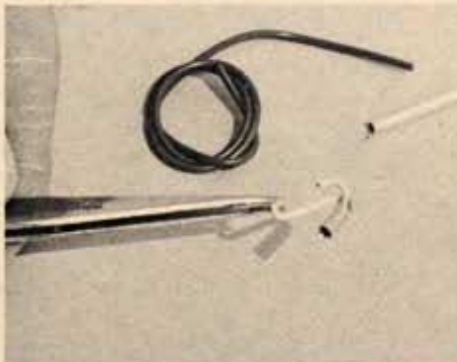
*After tank is cut off, round the edges with a file and spray a coat of primer over the wood. Sand smooth and then spray the color on.*



*A chromed gas cap can now be glued to the top of tank and this unit is ready to be placed on the car. Support rods are made from the same square plastic as front bars.*



*Gas tank is fitted into place. Now battery can be glued to area just behind the right seat.*



*Headers were made from a piece of 1/8 inch aluminum tubing and small gauge plastic coated wire. Bend wire to proper shape and glue to end of tubing.*

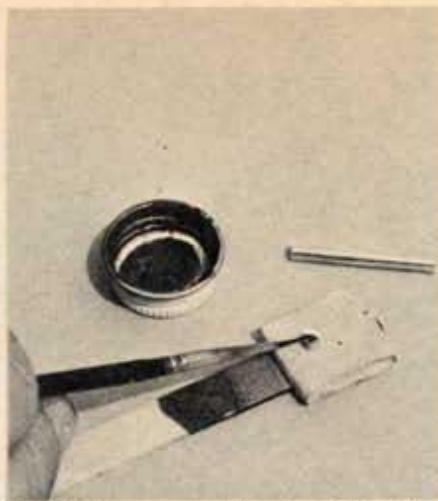


*After headers have been painted flat white, glue them in place using as little glue as possible for a neat job.*

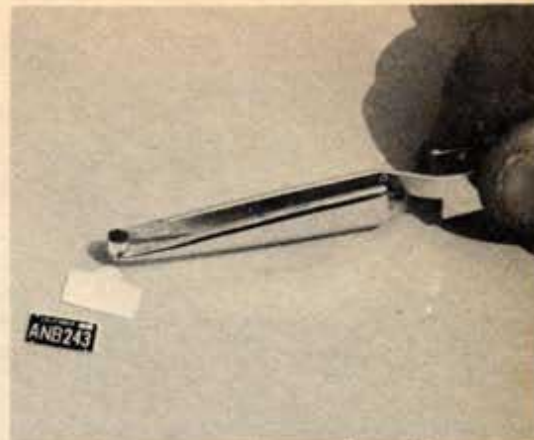




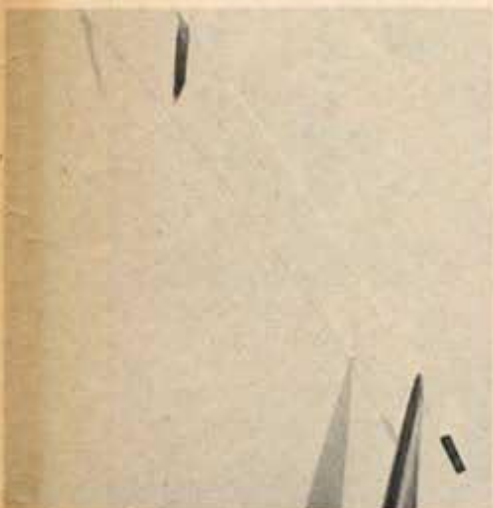
*Note that the engine has been wired and the headers are in place. Tubing pipes look authentic.*



*Taillights were cut from a piece of chrome tree. Paint the end Candy Red and let dry.*



*License plate mounting panel can be made of file card or sheet plastic, following diagram. Spray panel silver, and glue the light in place. License is a decal.*



*Fine gauge wire is used for carrying the flag. Heat end of wire and place in a piece of small gauge plastic tree. Flag is a strip of red cloth.*



*Glue piece of plastic to the roll bar. Now our little bomb looks like a real buggy. This flag is a must for off-the-road machines.*



*Model is painted bright yellow with red wheels and flat gray seats. This type of vehicle can be built many different ways.*



*Study the real buggies, then decide which way you will build yours. All have basically the same chassis construction.*



*Closeup shows rear engine detail and wide wheels. Note roll bar and gas tank location. Headers are flat white.*



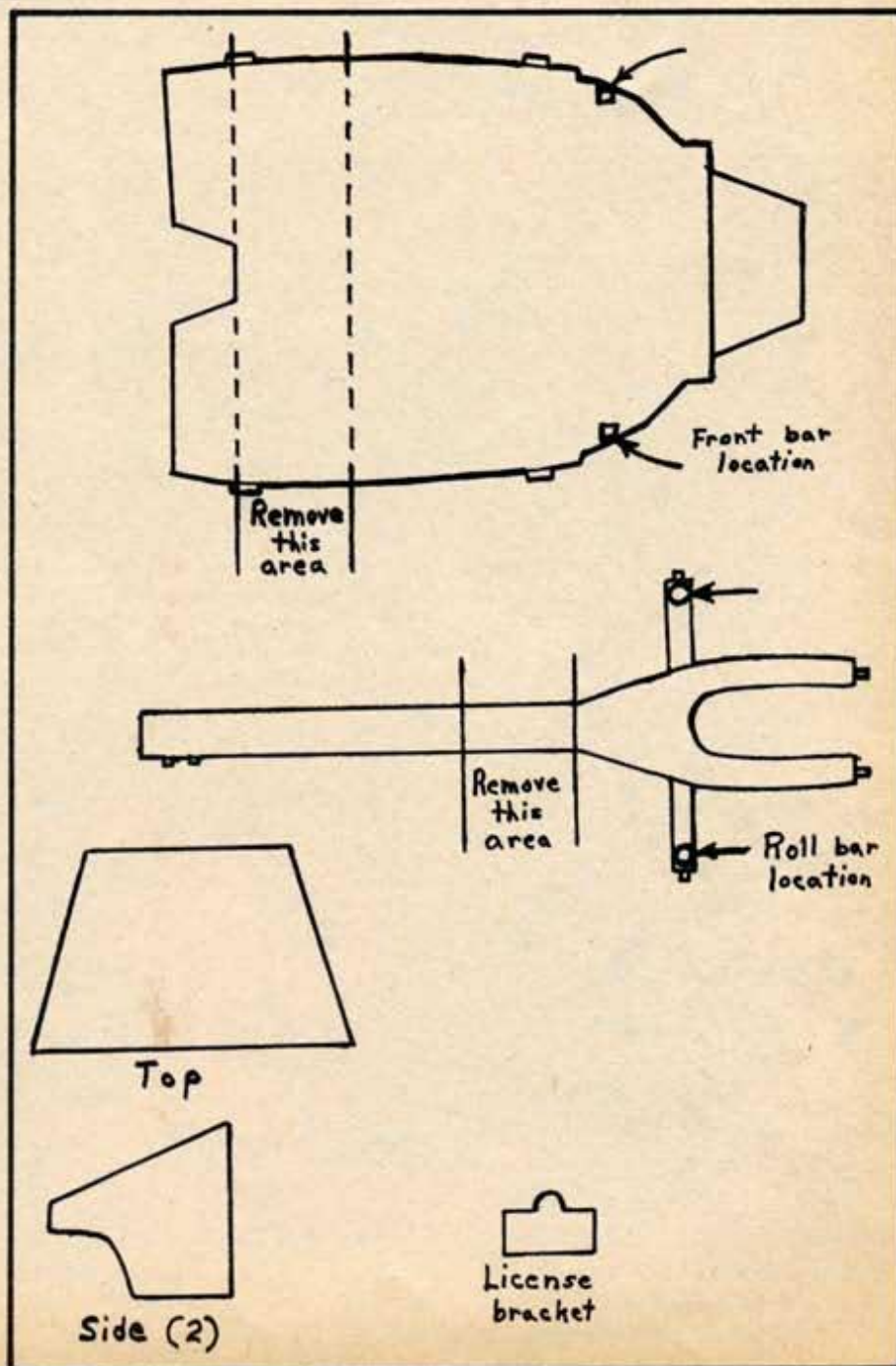


These two typical buggies are ready for the hill. The one with the aluminum covered cowl has an extremely short wheelbase but most builders remove about 15 inches from the chassis.

Side panels can be made for this model by using diagrams for pattern. Make them from sheet plastic or file card. Spray them silver to give the appearance of aluminum sheet.



Headlights are spotlights fitted to front shock brackets. Stock wheels and tires are used on the front. Steering wheel is one for the drag car version. It is important that you put the rear wheels on at a good angle as this is just how they look with the body removed.





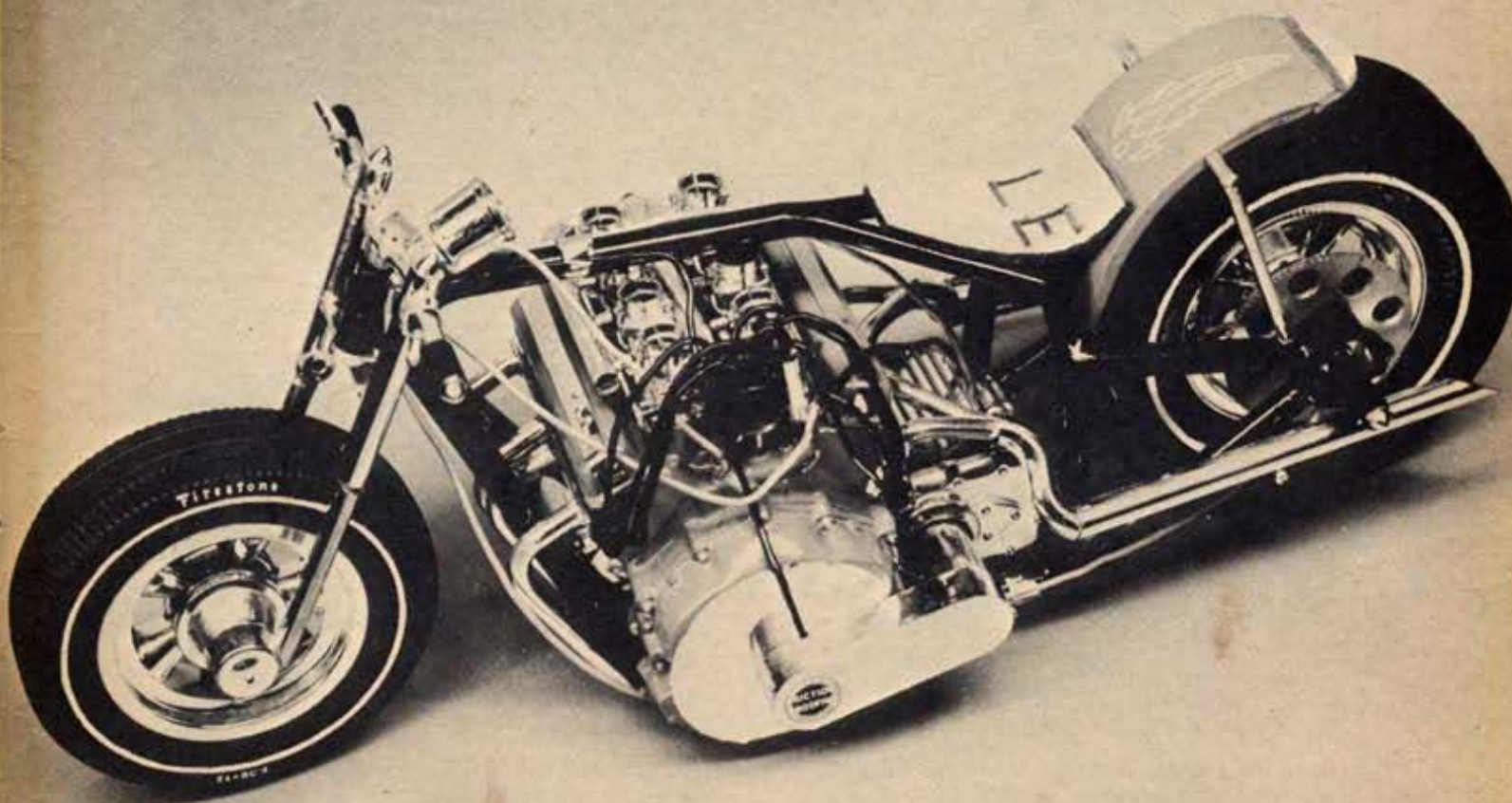
# mcs: MODEL OF THE MONTH CONTEST



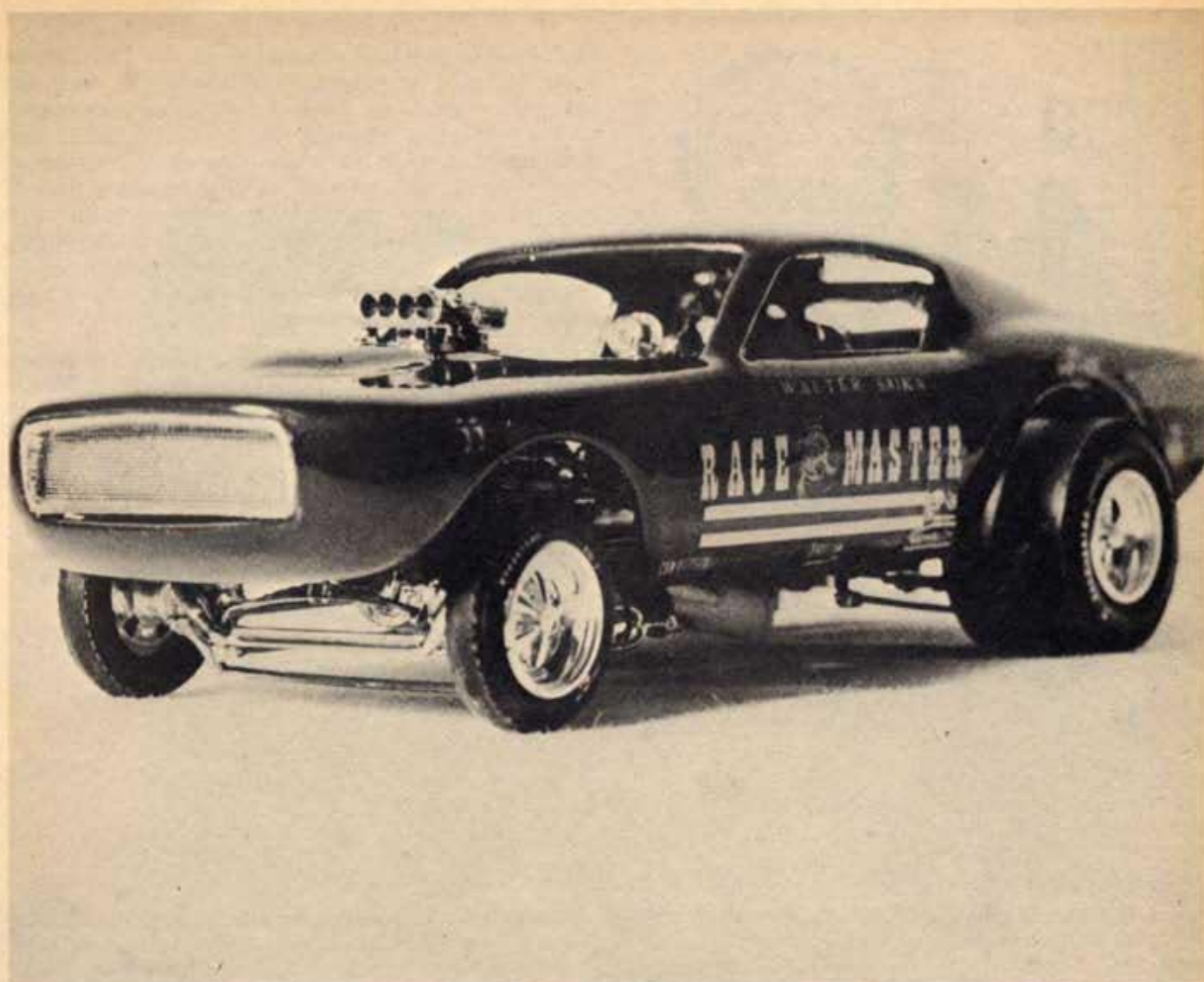
## HOW TO ENTER OUR CONTEST

You can enter any kind of a model you like (train, plane, boat, car, etc.) so let your imagination run wild! Just send one or two sharp black and white (no color please, we can't use it) photographs of the model, and a brief description of what you have done to it. Remember, other readers are interested in what you have done to your model, so be specific when mentioning the parts that you used. Send to: Editor, MCS, 171 Barrington Place, West Los Angeles, California 90049. Sorry, we can't return photos unless you include a self-addressed, stamped envelope.

"Top Eliminator" for this month is Wally Orlecki's fantastic "brute bike", which features a fully wired Monogram "283" Chevy V-8 (!) mounted across the frame. The frame is a work of art, being hand-formed from 1/8" plastic tubing, and body putty. The wheels, tires, and most of the chrome parts are from Monogram's "T" parts. The suspension, headers, sprocket, and gear box are also made by hand. "Out of sight" Wally! We'll send you the \$25 Savings Bond, if you'll just drop us a note telling us where you live! All we got was a picture and a description of your great bike! Don't be so modest!







Walter Saika of Gardena, California, spent three months putting the finishing touches on his '67 MPC Mustang. Walt borrowed parts from here, there, and everywhere, to pull together this dream "funny car". Plenty of putty and sandpaper was used to close up the vents, front end, and back. The rollbar came from a '67 AMT Mustang kit, the chute from a '66 Dodge Coronet, "wheelie" wheels from a Falcon kit (Revell) and the mill is a '58 blown Chrysler, 48 / model car science

delivering through a '55 Chev driveshaft. Full wiring is used in the engine bay. Front suspension comes from Revell's Fiat kit, and the rear suspension from their '55 Chev. That smart injector scoop is hand made. The "all gone" paint job is five coats of candy sapphire blue, over gold undercoat. After the decals were applied, four coats of clear lacquer topped it off. Well done, Walt!



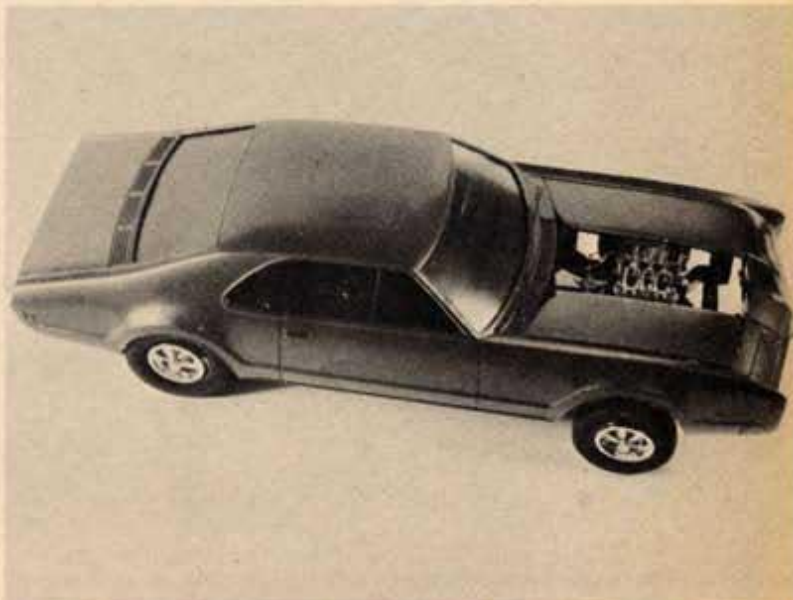


Joseph Flicker's boss bomb is tagged "Liquidator" and one look at this beauty tells you why! Joe hails from Yeadon, Penna. The "Liquidator" is a '64 Olds F-85 Cutlass, painted sapphire blue, with black interior and green tinted rear and

side windows. It is powered by a fuel injected "427" Olds V-8, topped with a GM blower. A Chevy rear end and front lifts were taken from the AMT Chevy Stovebolt kit.



Here's a splendid Toronado from Billy (Big Daddy) Moore, who hails from Anderson, Indiana. Bill took a Hemi mill from the Little Red Wagon kit belonging to IMC, and popped it into the Toronado body, then removed the center section of the hood to show off his handiwork. The body is painted a



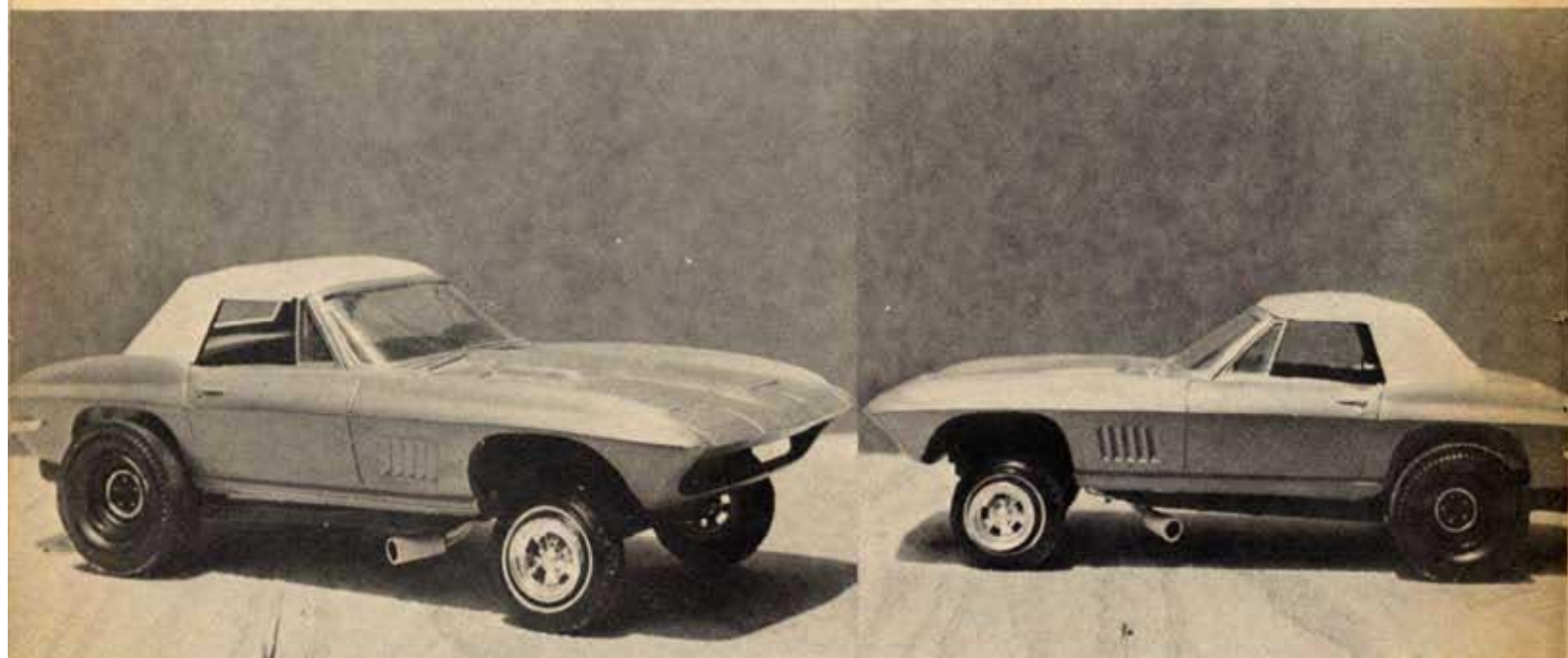
brilliant gold and dark red. The interior is done in light brown. The chassis has been given the glamor treatment, in jet black. Big rear slicks give it that "hungry" look. Good show, "Big Daddy".





We've always dug the '53 Studebaker, and evidently so has Billy Anderson, of Houston, Texas. Bill scratched up this car for "shown 'n go". He installed a fully wired Chev V-8, after laying on a candy blue metalflake paint job, with flat

black interior. The car is composed mainly of AMT parts. Looks like a capable contender on the strip, as well as in the show circle, Bill!

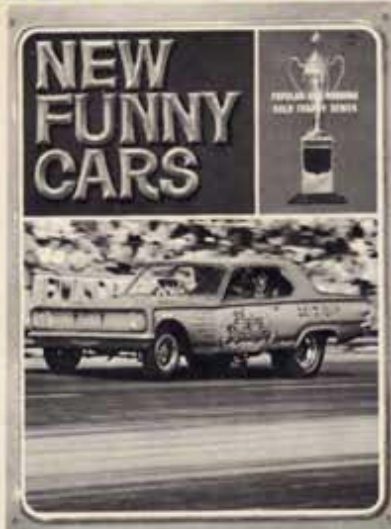


The main theme behind Alfred Loreto's '67 Stingray was a surplus of power, in a machine with nearly stock body lines. He succeeded in obtaining what he started after, as you can see, which goes to show you how the fellas from Bronx, N. Y. build cars!! The mill used is the brutal "327" 'Vette, injected and blown. The blower mounts on the front of the engine, a la the Orange Crate style. The mill is fully wired, 50 / model car science

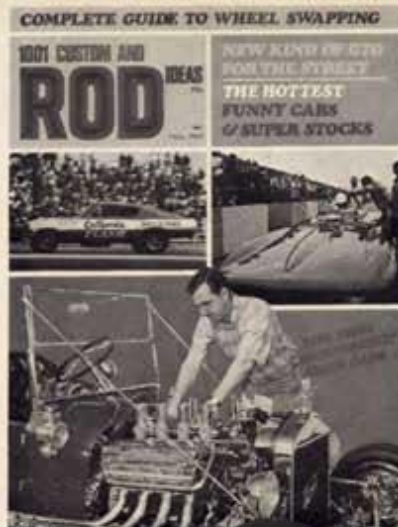
and has battery cables, working moon gas tank cap, oil filter cap, oil drain plug (yes, it works!) and a working dipstick. The interior of the car is rolled and pleated corduroy, trimmed with wood grained contact paper. Dashboard and taillights actually work, making this a real eyeball grabber at night! Smoooooth job, Al!



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